

AMERICAN GAS ASSOCIATION

AMERICAN
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MARCH
1961



With GAS
this school
saves money with

23

heating systems
instead of
one!



James Lane Allen School, Lexington, Kentucky, where each classroom is independently gas-heated and automatically ventilated with Norman Schoolroom Systems. Additional gas-fired units serve shower rooms, hallways, gymnasium and kitchen. Architects & Engineers: Meriwether, Marye & Associates; Consulting & Mechanical Engineers: Proctor-Ingels, Lexington, Ky.

The planners of the James Lane Allen School in Lexington, Ky., found the answers to some very important questions in their choice of gas-fired Norman Schoolroom Heating and Ventilating Systems.

Questions like these: Why install an expensive central system, when you can have individual heating units — including automatic ventilation — in each classroom? Why heat the entire building when some classrooms are not in use? Why be without the rapid heating speed and economy of gas?

The answers are clear. With their 23 Norman Schoolroom Systems they enjoy room-by-room gas heating, plus automatic forced-air ventilation, independently of any central

system. Each teacher can control the supply of fresh heated, circulated air. Only outside air enters the combustion chambers. Thrifty gas keeps fuel costs low. And the school enjoys all the advantages of clean, quiet, safe fast and dependable gas heat.

Complete information about gas-fired Norman Products for school comfort is yours for the asking. Call your local Gas Company, or write to NORMAN PRODUCTS

CO., Division of John J. Nesbitt
Inc., 1150 Chesapeake Avenue
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American Gas Association.

**FOR HEATING...GAS
IS GOOD BUSINESS!**



**ROOM-BY-ROOM REQUIREMENTS MET WITH
GAS-FIRED NORMAN SCHOOLROOM SYSTEMS**



Frank Hodgdon welcomes Mrs. Ellen Bridges and Home Service women to A. G. A. Laboratories (see page 4)

If the contents of this issue seem a bit futuristic, that's because the gas industry is "futuristic." . . . Though the gas industry's history is a colorful and dramatic one, we feel it doesn't hold a candle (no, nor a gaslight) to the thrilling developments to come in the future. . . . And that future already is arriving. . . . For example, on page 13 we have the story of a modern city supplied with air conditioning from a central plant in the same manner as other public utilities like gas, electricity and water. . . . The initial application is to be made in a group of downtown office buildings. . . . But the potential applications are practically limitless. . . . Why not whole suburbs, too, air conditioned from central gas-operated plants? . . . And why stop with heating and cooling? . . . On page 15 is the story of engineering developments which make it possible to supply a large modern school not only with heating and cooling, but with electric lighting and other power needs, all from an economical gas turbine. . . . And what can be done in a school also is applicable to shopping centers, farms, factories, or . . . you name it. . . . The truly all-gas kitchen arrived last month when the gas dishwasher was introduced less than a year after the improved new gas refrigerators. . . . That story is on page 19. . . . For further news of wonders to come, we recommend attendance at A. G. A. Research and Utilization Conference in Cleveland, April 4-6. . . . Details on page 9.

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Sheraton Dallas



Beautiful 'Big D' . . .

Baker Hotel

. . . with its hospitable hotels . . .



Texas is carpet spread for '61 A.G.A. Convention

Big D"—a Texas-style legend of towering skyscrapers, cultural greatness, and Southwestern hospitality will come alive for some 4,000 delegates and guests attending the American Gas Association's 43rd Annual Convention in Dallas October 1-4.

Located in the heart of the Lone Star state's natural gas area, Dallas' dazzling combination of size, sophistication, and friendliness has proven a magnetic drawing-card for the two million Texans who live in the city's urban area.

A. G. A. delegates, representing all sections of the gas industry, will find in Big D a striking example of the booming growth of Texas and the Southwest. In just a single century Dallas has grown from a lonely log cabin on the banks of the Trinity River to its present position of regional and national dominance.

Convention guests will find that first cabin still standing in Big D, located near the magnificent skyscrapers silhouetting the Texas sky, and offering silent testimony to the almost unbelievable progress attained by Dallas.

The city has grown up—and out—during the past decade. Not a day has passed when a steel skeleton or two has not been evidenced in Big D's ever-changing skyline. More substantial testimony comes from a national building association

"Dazzling Dallas," host city for Convention in October, presents one of the nation's most dramatic skylines. In foreground is the new gas air-conditioned Memorial Auditorium, scene of many major attractions



Statler Hilton



will give delegates . . .

Adolphus Hotel



. . . a Texas welcome

which recently pointed out that only New York City has exceeded Dallas in post-war construction.

However, it has been an orderly growth. Dallasites have realized that a city is judged on many important merits besides population. Thus, Big D citizens have earmarked civic improvement as their prime objective.

For example, A. G. A. visitors may be surprised to learn that Dallas is acknowledged as "The Fashion Capital of the Southwest." Alertness to fashion trends and the latest developments in customer service have won for Big D the excellent and farflung reputation its retail stores enjoy. Dallas' own Neiman-Marcus Company boasts an international reputation in fashion, illustrating the style-consciousness exhibited by Dallasites.

To the many individuals who picture a Texan's brand of culture as a night of guitar-twanging around the campfire, Dallas' progress in the fine arts will come as a surprise. The city's most recent accomplishment is the revolutionary Dallas Theater Center. Housed in the nationally famous theater designed by the late Frank Lloyd Wright—the only theater by the famed architect—the Theater Center includes a repertory company as well as a theater school. It has brought theater-lovers to Dallas from all over the world.

Dallas' recently-opened Gas Appliance Center will be on "must" list of places for all Conventioners to visit



Also, such renowned artists as Maria Callas have sung leading roles during the Dallas Civic Opera Company's last two seasons. In addition, various civic organizations cooperate in bringing other outstanding musical artists and lecturers to Dallas for frequent appearances.

For an A. G. A. delegate or visitor seeking entertainment, Big D is the place to look. Some 70 theaters throughout the city offer a wide variety of films and there are numerous night-clubs and restaurants presenting top-caliber entertainment. For the gourmet there is Mexican, Swedish, French, Italian, German, Greek and Chinese food. The city is proud to boast several restaurants always ranked among the nation's finest.

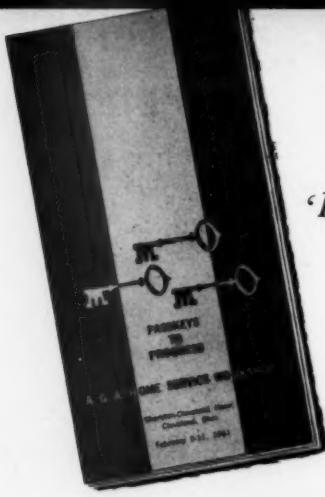
A. G. A. conventioners will enjoy Dallas' ample meeting and exhibit space, including the beautiful new gas air-conditioned Memorial Auditorium, modern in appearance and versatile enough to fit any size group, and the \$40 million facilities of the State Fair of Texas. The Fair, largest in the nation, is expected to draw more than 2½ million visitors during the two weeks, October 7-22, for a variety of events, ranging from football in the Cotton Bowl and livestock judging in the Pan-American Livestock Exposition to popular

(Continued on page 20)

Gas building at Texas State Fair grounds is another Dallas attraction that Convention-goers will not want to miss



'Passkeys to Progress,' workshop theme for gas industry's mi



Opening session speakers: Mrs. Charlotte Montgomery, Mrs. Ellen Bridges, Margaret Spader, Mrs. Elsie Alcorn, and Flora Dowler



Thursday afternoon: Max Fuller, Mrs. Marion Vandemark, Evelyn Winkles, Mrs. Shirley Pemberton, Curtis Bonner



Friday morning session: Mildred Endner, Chester Keild, Julia Hunter, Virginia Van Nostrand, and Mildred Clark

Home Service Workshop opens doors to tomorrow

Among the "Passkeys to Progress" providing the theme for the annual A. G. A. Home Service Workshop in Cleveland last month, conferences such as the Workshop itself could have received prominent mention.

Attended by more than 260 gas industry Home Service women, approximately 100 more than attended last year, the conference filled a solid three days, February 9-11, with lectures, demonstrations, luncheon and dinner talks, and a tour of the A. G. A. Laboratories. As a result, the women re-

industry's mists, covers research, new appliances, school aids, demonstrations



Saturday morning: Patricia Huff, left, Mrs. Mabel Kay, Mrs. Betty M. Rush, and Marjorie Chandler



Peggy Lewis moderates "Passkeys to Schools" panel. At right, Mrs. Jane Savage, Mrs. Barbara Tracy

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turned to their home companies with heads and notebooks packed with new know-how and ideas for successful Home Service work.

Sponsored by the A. G. A. Home Service Committee, with Mrs. Elsie Alcorn, Milwaukee Gas Light Company, as chairman, and Mrs. Ellen Bridges, A. G. A. Home Service director, as secretary, the Workshop presented 40 speakers including editors of national magazines, a speech expert, the president and the managing director of A. G. A., and rep-

resentatives of gas companies and appliance manufacturers.

Opening speaker for the workshop-conference was Mrs. Charlotte Montgomery, contributing editor, *Good Housekeeping* magazine.

Under the title "Speaker for the 20th Century House," Mrs. Montgomery's talk defended the modern housewife with her labor-saving ideas and appliances.

As a result of increased leisure, today's woman is developing better taste and wider interests. She is getting

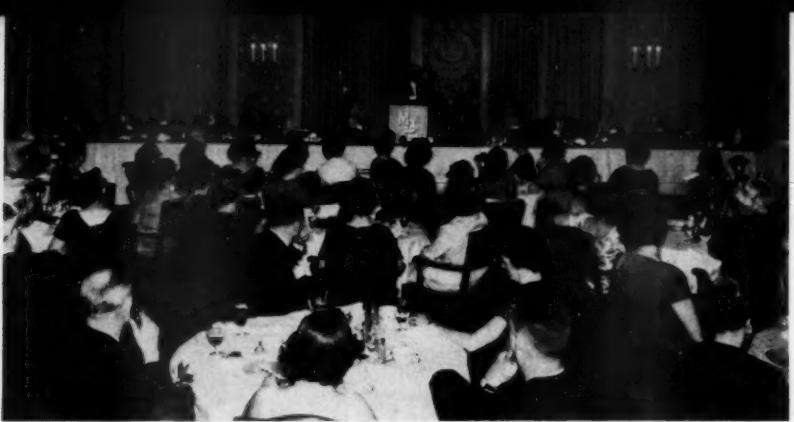
choosier, Mrs. Montgomery said, and more individualistic in her buying.

One consequence of importance to marketers is that it is now becoming profitable to design products for segments of the market rather than for a majority taste only.

The modern woman, who works on an average of 25 years of her life, needs help in her homemaking tasks, especially in basic cooking skills and nutrition. "She is waiting for a hand, and you can give her that hand," Mrs. Montgomery told the women.



Puppets as "passkeys": Frances Saunders, left, Mrs. Marjorie Lillenberg, Mildred Endner, discuss their use in school talks



Lester T. Potter, A. G. A. president, addresses conference dinner



Richard L. Leusch, final Workshop speaker, chats with Mrs. Ellen Bridges



Lynn Surles, luncheon speaker, illustrates point with a quick back-flip



Adrian Igau (with mike) and Laverna Best (at rostrum) give "Cook's Tour of Europe"

A. G. A.'s managing director, C. S. Stackpole, delivers final luncheon talk



Margaret Spader, Home Service consultant, GAMA, gave a talk, illustrated with projected color slides, of her experiences at the London Food Fair, where a U. S. Home Service team presented cooking demonstrations. Miss Spader compared American cookery to food styles elsewhere in the world, and presented a collection of foreign recipes calculated to add spice to a Home Service woman's cooking repertoire.

Flora Dowler, Home Service director, The Manufacturers Light & Heat Company, presented "A. G. A. Educational Materials for Home Service." Illustrating her talk with displays of school teaching-aid material available from A. G. A.'s Educational Service Bureau, Miss Dowler offered pointers on introducing these materials into the schools. A low-pressure approach, with the materials simply called to the attention of school authorities has brought good results, she said. Miss Dowler reported that, in addition to the science and other teaching aids now available, the A. G. A. Educational Service Bureau is currently developing materials specifically designed for Home Economics classes.

Luncheon speaker on the opening day was Lynn Surles, Milwaukee speech consultant and author and lecturer on public speaking. Under the topic "Passkeys to Successful Oral Communication," Mr. Surles gave the women professional advice on how to improve their spoken presentations. One tip was to throw away their grammar books and concentrate on what they wished to say. Another was to wake up their audiences with a few surprises. This point he demonstrated by suddenly doing a back-flip on the stage, ending up where he started—on his toes. Eye contact, folksy anecdotes, and simplicity were other recommendations.

In the Thursday afternoon session, presided over by Evelyn Winkles, The East Ohio Gas Company, first speaker was Mrs. Marion Vandenbreul, Milwaukee Gas Light Company.

Mrs. Vandenbreul, talking on "Gas Heat—A Homemaker's Viewpoint," reported some results of a personal survey made during home calls. She said responses to gas heating experience were enthusiastic on the scores of convenience, cleanliness, air circulation, service-free operation and balanced temperature. A survey of this

type, it could be concluded, would be useful to every Home Service woman, since the opinions of neighbors are strong influences on the homemaker.

Curtis Barnard, director of public information, Carrier Corporation, spoke on "Man-made Climate." Mr. Barnard stated that most people who do not buy air conditioning fail to do so simply because they don't know enough about it. They have only the vaguest conceptions of the cost of air conditioning, what it will do, and what problems are involved in installing it.

Education of the consumer is the answer, Mr. Barnard said, and this task Home Service women are well fitted to perform. "To a substantial degree," he said, "increasing the demand for air conditioning is in the hands of people like you because you among all of the people in your organizations are in the closest contact with potential buyers."

As an aid in this endeavor, Mr. Barnard reported that Carrier Corporation, in cooperation with home economics educators and A. G. A. home service representatives, has recently published a manual, "Air Conditioning and Home Management." The manual is being made available to utilities, home economics colleges and all state extension services.

"There is little you can do that will help your companies more than increasing the demand for residential air conditioning," Mr. Barnard told the women.

Mrs. Shirley Pemberton, home economist, Robertshaw Fulton Controls Company, spoke on "Timer-less Drying is News."

Mrs. Pemberton described the new Robertshaw Fulton clothes dryer controls which eliminate timers by shutting off drying according to the degree of moisture remaining in the clothes. In addition, she reported, the system provides what Robertshaw engineers consider an "ideal temperature pattern" no matter what the load to be dried. Thus the machine adapts automatically to the kind of clothes being dried, whether regular cottons, woolens, synthetics, thick woven or knit fabrics, or any other type of fabric. An important result, Mrs. Pemberton said, is the elimination of over-drying and consequent excessive wrinkling. Slides illustrated the operation

(Continued on page 30)

LABORATORY DAY:
More than 200 Home Service women packed lecture room to hear research and testing activities described by A. G. A. Laboratories director Frank Hodgdon (bottom) and other personnel, split into parties for guided tour



Accident rate continues to drop

Accident data for the third quarter 1960, reported by the A. G. A. sample group of 83 gas utility and pipeline companies, indicate that the gas industry experienced fewer disabling injuries than occurred in the same period last year. The frequency rate (number of disabling injuries per million man-hours of exposure) for the sample group of companies was 6.90 during the current quarter. Percentagewise, this represents a decline of 10.3 per cent from the frequency rate of the third quarter 1959 and 27.4 per cent below the frequency rate of the same period in 1958, the first full year for which quarterly data were collected using this sample as a bellwether for the accident experience of the entire gas industry.

Based upon past experience, the quarterly sample has revealed, for the past two full calendar years, that the third quarter of each year is the most hazardous to the gas industry employee. The frequency rate of the third quarter 1960,

although substantially lower than the rates of the same periods of previous years, still holds the position of last place in safety.

Third quarter 1960 accidents resulted in an average severity rate of 480 days lost per million man-hours, a very substantial 49.3 per cent lower, or 466 days less than the 946 days lost per million man-hours worked during the third quarter 1959. This decrease is primarily due to the fewer number of fatalities which occurred during the current quarter compared to the third quarter 1959. A comparison of the severity rates for all quarters of the past two full years shows that the trend was similar to the trend established by the corresponding frequency rates, in that the third quarter resulted in the greatest amount of lost time during the year. The third quarter 1960, however, did not follow this trend and dropped 48 days below the 528 days lost in the second quarter of 1960. The variance in trend was primarily due

to the fact that during the current quarter an absolute average of 447 days were lost for each permanent partial disabling injury, while in the second quarter of 1960 an absolute average of 1061 days were lost for each permanent partial injury.

Supplementary vehicle data were reported by 63 of the sample companies. These companies indicate that gas industry vehicles were involved in 1.15 accidents per 100,000 miles traveled during the third quarter of 1960. In direct contrast to the trend of the frequency of disabling injuries to employees, the rate of motor vehicle accidents during the third quarter of each year has been consistently at the lowest point.

Cumulative data for the first nine months of 1960 indicate the gas industry will establish, for the thirteenth consecutive year, another record low. The frequency rate of 6.35 disabling injuries per million man-hours of exposure dur-

(Continued on page 24)

GAS EMPLOYEE ACCIDENT EXPERIENCE

Nine Months 1960

	Annual 1959	First Quarter (Sample)		Second Quarter (Sample)		Third Quarter (Sample)		Nine Months (Sample)	
		1960	1959	1960	1959	1960	1959	1960	1959
		Number of reporting companies	508	83	83	83	83	83	83
Average number of active employees	192,942	75,931	75,075	77,065	76,589	77,542	77,558	76,846*	76,407*
Number of injuries									
Fatality	17	1	2	2	1	2	5	5	8
Permanent total disability	1	0	0	0	0	0	0	0	0
Permanent partial disability	107	6	2	4	4	5	4	15	10
Temporary total disability	2,744	220	265	236	266	262	286	718	817
Total	2,869	227	269	242	271	269	295	738	835
Days charged									
Fatality	102,000	6,000	12,000	12,000	6,000	12,000	30,000	30,000	48,000
Permanent total disability	6,000	0	0	0	0	0	0	0	0
Permanent partial disability	49,280	1,665	274	4,245	544	2,237	1,028	8,147	1,846
Temporary total disability	49,045	3,463	4,254	4,372	4,194	4,458	5,245	12,293	13,693
Total	206,325	11,128	16,528	20,617	10,738	18,695	36,273	50,440	63,539
Frequency rate	7.31	5.96	7.19	6.19	7.00	6.90	7.69	6.35	7.29
Severity rate	526	292	441	528	277	480	946	434	555
Vehicle accident statistics									
Average number of employees	150,952	68,951	68,870	69,623	69,844	69,968	70,771	69,514	69,820*
Number of vehicles	46,646	19,148	18,573	19,098	19,449	19,393	19,120	19,213	19,047*
Vehicle miles traveled (000)	545,494	54,620	50,658	57,951	57,615	57,173	57,289	169,744	165,562
Number of reportable accidents	7,105	913	905	702	709	656	684	2,271	2,299
Number of personal injuries	322	47	27	28	24	23	16	98	67
Accidents per 100,000 miles traveled	1.30	1.67	1.79	1.21	1.23	1.15	1.19	1.34	1.39

* Average of first, second and third quarters.



Lester T. Potter,
A. G. A. president,
is featured speaker



E. B. McConnell,
Standard Oil of
Ohio, will talk



Paul J. Reynolds
is chairman for
the conference



Joe C. Darrow
heads sponsoring
A. G. A. Committee



W. G. Hamilton,
American Meter Co.,
will be keynoter

April conference previews future

Executives with an eye to the future, sales and customer service personnel, and technical men all will have an opportunity to bring themselves abreast of new research advances promising far-reaching transformations in the gas industry, at the 16th Annual Research and Utilization Conference in Cleveland, April 4-6.

The conference, to be held at the Sheraton-Cleveland Hotel, will cover a range of topics aimed at a broad gas industry audience rather than at research specialists only.

In the domestic field, the latest advances in house heating, air conditioning, cooking, water heating, incineration, clothes drying, appliance controls and burners will be reviewed. Audience participation through questions and discussion will be promoted.

In addition to the conventional ap-

pliance areas, such radically new departures as fuel cells, thermoelectrics and thermionics will be discussed by leaders in these fields of research.

Emphasis also will be placed on the currently important subject of house heating. Papers covering research aspects such as new design approaches, including direct fired baseboard heaters and bathroom heaters and heat exchanger design, will be presented.

Competitive aspects of oil and electric equipment also will be discussed, and advances in gas air conditioning will be reported.

To help guide gas industry thinking on product development, a prominent magazine editor, Elizabeth S. Herbert of *McCall's*, will discuss the consumers' viewpoint on gas appliances.

Robert Evans, vice president, Whirlpool Corporation, will offer delegates

recommendations on how technical men can deal more effectively with management and sales in everyday operation.

The currently vital question of pre-adjusted ranges will be reviewed by a panel composed of manufacturer and utility representatives. Actual experience with range installations will be discussed. Other cooking and water heating areas of research importance also will be covered.

In addition to a full program of significant papers and addresses, the conference will feature an "Off the Record" discussion of industry problems. Attendants are invited to bring their problems to the floor.

A tour of the A. G. A. Laboratories in Cleveland is scheduled. There, besides becoming acquainted with facilities, delegates will view a display of prototype

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ONTHIT

Study shows gas sales hold steady through business dips

By BUREAU OF STATISTICS

American Gas Association

The A. G. A. Committee on Gas Industry Statistics has completed a comprehensive analysis of utility gas sales for the years 1946-1957, inclusive, as related to general business conditions. This study was undertaken to develop methods of improving forecasts of gas sales which are so essential for reliable operating, cash and construction budgets. The techniques that have been developed are the result of an industry study, but have been developed with the thought that they could be readily adapted for use by the local gas utilities.

The selected economic indicators of general business conditions were applied to gas sales through various statistical techniques and methods of analysis. Two classifications of gas sales were tested, namely residential and commercial sales and industrial gas sales, a prime source of energy in industrial production. The result of the analysis of residential and commercial gas sales proved rather conclusively that these sales volumes were highly inelastic and not influenced to

any considerable extent by fluctuations in the economy. In fact, the business cycle seems to have had little effect on residential and commercial gas sales, and sales continued to increase during the three post-war recessions. The lack of correlation between domestic sales and the economic indicators of business activity can be stated as a favorable factor, in that stable growth of domestic sales is reflected in earnings and dividends.

The staff concentrated most of its efforts on the industrial gas load as it was more likely to conform to fluctuations in the business cycle and to represent an important factor in the over-all earnings of a company. It would appear desirable that utility managements analyze the effect and extent of changes in business conditions on the industrial load in the interest of accurate forecasting. The techniques devised and used by the A. G. A. staff indicate that this type of analysis can be successful.

Only the post-war period was studied, since the gas utility industry had substantially different economic characteristics before the war, with many companies distributing a different type of

gas, having significantly lower heating saturations, and selling a premium fuel.

Economic indicators are tools which the economist can use to aid him in interpreting changes in business conditions, their effect upon his industry, a company, and future prospects for changing gas sales. The importance and nature of local industries will be a deciding factor in determination of the economic indicators best suited to company analysis. Where appropriate local indicators are not available, statistical techniques have been developed for company computation of several national economic indicators.

Management cannot plan effectively for tomorrow without attempting to forecast the future. It behoves management to encourage its personnel to study and keep informed on methods of forecasting and interpreting available economic data so that they may be in position to analyze their company sales in light of business conditions.

In addition, in areas where there is a lack of suitable indicators, management should encourage business or economic

(Continued on page 24)

Meet your Association staff



W. Roger Sarno

"If it is here, now, it's a concern of Utilization. If it's in the process of development, Research handles it." That's how W. Roger Sarno, assistant utilization engineer in the Utilization Department of A. G. A., began to describe the role of his department. He went on to say that the department acts as a consulting engineering service to the gas industry, answering any and all technological questions on application, installation, and use of gas appliances and equipment.

Mr. Sarno, who came to the Association in 1957, was formerly employed by Babcock and Wilcox, where he worked as a contract engineer, designing large boilers. With A. G. A., his specialty is in the field of heating and air conditioning.

Mr. Sarno was born in the borough of the Bronx in New York, N. Y., and studied at New York University. He spent his years of military service in the U. S. Air Force and left service with the rank of lieutenant.

He married several years ago and

now resides in Yonkers, N. Y., with "one wife and two wonderful little boys." His hobby is photography, and he plans to set up a dark room when they have moved from their apartment to a house.

As a utilization man, Roger Sarno takes the reasonable and efficient approach to any problem, including that of how to comfortably read a book while commuting on the New York Central. He first buys good works in their paperback editions. Then, instead of toting the entire volume to and from his home every day, he tears from it 20 or 25 pages, as much as he could expect to read in a day. He says, "A man has just so many pockets, and a whole book takes up room. Why carry around two hundred pages you've already read?" He is now waiting for the publishing world to match his efficiency by bringing out paperbacks in ring binders. "Then I wouldn't have to peel the glue off of the back of the pages," he says.

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NAHB show a king-size spectacle

Chicago's new McCormick Place set a giant stage for this year's National Association of Home Builders (NAHB) Convention, January 29 to February 2.

The theme, "all under one roof" represented an unprecedented opportunity for the 39,000 attending builders, architects and representatives from allied industries to see a host of exciting new materials and equipment designed for modern living.

The gas industry showed 13 new kitchens and laundries designed by leading shelter magazines in cooperation with gas appliance manufacturers. A. G. A. maintained a "gas information center" for builders, which was a focal point of the huge gas display covering six aisles.

Emil A. Hanslin, builder-realtor of Lynnfield, Massachusetts was presented the gas industry's Blue Star Home Builder of the Year Award for 1960 for his outstanding contributions to the homebuilding industry. Robert

F. Calrow, assistant vice president, Minneapolis Gas Company and assistant vice chairman of the A. G. A. Home Committee, presented the award.

Mr. Hanslin won national attention last year with his outstanding all-gas home located at 39 Apple Brook Lane in Lynnfield. The house was featured in a 12-page color editorial in the October issue of *Good Housekeeping* magazine, which called it "a house full of ideas, built for a long future." Two articles on Mr. Hanslin and his outstanding Blue Star Home also appeared last year in *House & Home* magazine.

Designed by architect Royal Barry Wills, the Lynnfield house combines all of the traditional charm of New England with sparkling new ideas and products. Mr. Hanslin spent 13 months talking with manufacturers, builders, architects and real estate and magazine editors to find new materials to make his Colonial home as modern as tomorrow.

Crowds throng aisles of gas industry exhibit area in huge McCormick Place

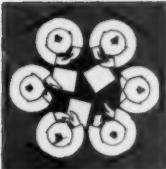


Emil A. Hanslin, Blue Star "Builder of the Year" receives congratulations from C. S. Stackpole, A. G. A. managing director



A. G. A. information center and display provides a stopping-point for builders





Prepared by
A. G. A. Personnel Committee
Edited by W. T. Simmons
Assistant Personnel Manager
Philadelphia Electric Co.

● Advance decisions are not always helpful in selecting the best candidate for the job. In an experiment conducted recently at the University of Illinois, a group of personnel managers completed a published personality inventory. The forms were collected for scoring, and the participants were told that reports would be furnished to them.

The tests were scored according to the published key. However, two reports were prepared. One consisted of a mimeographed profile sheet that showed each man exactly how he scored, as compared with norm groups. This gave him a quantitative result that could be used practically. The other report was a fake personality analysis that showed how well he scored on such items as "You have a tendency to be critical of yourself," "You pride yourself as an independent thinker and do not accept others' statements, without satisfactory proof," and so on.

At the second meeting of the group, the fake reports were distributed. Each man was asked to read over the description and decide how accurate it was. Fifty per cent marked the description as "amazingly accurate" and another 40 per cent as "rather good."

The fly in the ointment was that all of the men received identical descriptions, although each thought that he was getting a unique report, as his name was marked prominently in red pencil at the top of the sheet. When the subjects were told that all the reports were identical, there was a terrific racket, compounded of resentment and amusement at themselves for being duped. Each man was then supplied with a statement of the scores he actually obtained from the published personality inventory. These scores did, as might have been anticipated, reveal considerable diversity within the group.

The point of this experiment is clearly pointed out by Ross Stagner, of Wayne University. He writes, "In the field of engineering, chemistry, power sources, and raw materials supply, the average businessman has learned to think realistically and to demand quantitative evidence concerning the value of an item before buying it. In the novel field of psychological measurement, on the other hand, many executives are still amazingly gullible. They often purchase expensive 'employee selection' programs with no scientific evidence that the service offered has any value. . . .

"A common device of the high-pressure

salesman who is dispensing a fake line of psychological tests runs something like this: 'Statistics can be used to prove anything. Let me give you a real demonstration. You take this personality test yourself, and I'll give you the report based on your scores. If you don't agree that it is amazingly accurate, I won't try to sell it to you.' The prospective customer takes the test, reads the report, is amazed by its accuracy, and spends a lot of his company's money for a device not worth the paper and printing."

The point here is whether this is the way to validate the use of a proposed evaluation technique. It is very much as though the purchasing agent would buy coal not by testing the product but by allowing the salesman to extol the virtues of the coal while burning it on a little grate in the purchaser's office.

M. S. Vitelles, professor of psychology at the University of Pennsylvania and director of personnel research and training at Philadelphia Electric Company, has frequently called attention to the fallacy of trying to evaluate a test's usefulness through personal judgment rather than by the use of objective statistical evaluation. If you make up your mind about a test by checking it against your personal impressions of the subject (particularly if you are the one being tested), you're in for trouble. The only reliable measure of accuracy is a statistical comparison of test results with on-the-job performance.

Dr. Vitelles said further on the scientific approach in selecting the right man for the job, "In dealing with this question it might be said at once that one of the least satisfactory ways of picking the tests . . . is to go to a neighboring company, obtain copies or samples of its tests, and install them. I do not mean to imply that such tests will always prove to be without value to the company that accepts them. For example, the validity of certain standardized mental alertness tests and tests of clerical aptitude and proficiency have been so well established that they frequently prove acceptable and useful without much basic research by the company. However, organizations differ widely in terms of standards of job performance and in terms of available labor supply. For these reasons, even in the case of generally acceptable tests, with known validity for particular kinds of jobs, which are fairly common throughout industry, there still remains the problem of establishing the norms to be used in the elimination of unsatisfactory applicants and the selection of satisfactory applicants in terms of the company's standards and needs.

"Using tests found satisfactory by another company in selection for some specialized job is hazardous for still another reason. In many instances, the same job title frequently covers entirely different responsibilities and functions, and the relationship between test results and job performance may not therefore carry over to another organization."

The attitude that common sense is a good gauge of a test's efficiency is widespread, as is the equally naïve idea that the process can be fast and simple and still do a good job.

No reputable publisher would deliberately exaggerate the power of his tests to help you pick the right people, but many are content to leave it to management to decide how much predictive power is good enough for its testing program. Very few managers have had the training to equip them to make a decision of this kind.

Management can and should control the operation of its testing program. It should also arrange to have the critical phases of its program monitored by those who are experts in the field. It is believed that management's responsibility is to provide the test experts with as much information as possible about job descriptions, working conditions, and ways of measuring performance. The consultant's job at this point is to select the most appropriate tests he can find for the problems at hand or, if necessary, to construct them himself.

● **NLRB ruling**—Board examiner finds union's "advertising" picket line unlawful as minority picketing—Examiner Martin S. Bennett, of the National Labor Relations Board, has determined that picketing by a union of culinary workers on the opening day of a new cafeteria in Long Beach, Calif., was conducted in an effort to gain recognition, without majority support, and violated Section 8(b)(1)(A) of the Taft-Hartley Act as an interference with the Section Seven rights of the cafeteria employees.

The union argued that the picketing was not for recognition or for organizational purposes, but was an advertising picket line to tell organized labor and its friends that the cafeteria was non-union. Examiner Bennett thought otherwise.

He found that the picketing was not only a restraint and coercion of the employees' Section Seven rights, but also a violation of Section 8(b)(2) of the law. This was based on a finding that the union was picketing for a union-shop contract.

Mr. Bennett has recommended a board order directing the Local Joint Executive Board of Hotel and Restaurant Employees and Bartenders International Union and Culinary Alliance Local No. 681 to cease picketing Crown Cafeteria and from attempting to cause the partnership that operates the place, Joseph W. Drown and Leonard Smithley, to discriminate against employees by signing a contract requiring membership in the union when the union does not represent a majority.

Before the opening of the cafeteria, *(Continued on page 14)*



At right, Russell Gray watches as W. T. Jebb points out Hartford buildings to be served by 'piped air conditioning' system. Above, artist's conception of projected plant



Air conditioning by pipeline is coming

Sale of cooling and heating through utility pipelines is about to begin in Hartford, Conn., and may soon become an important new source of income for utilities in other major cities.

At a recent press conference sponsored by Carrier Air Conditioning Company, William T. Jebb, president of The Hartford Gas Company, said his utility is investing about \$3 million for a central plant and for two miles of steam and chilled water pipelines to establish in downtown Hartford this first-of-its-kind utility service.

The new plant will be completed next year and Mr. Jebb estimated gross revenues from buildings purchasing heating and cooling would reach \$1 million to \$1.5 million annually within four years. Carrier will produce the huge water chilling machines for the system.

"A great future" for public utilities in this field was forecast by Erik B. J. Roos, partner in the engineering firm of Seelye, Stevenson, Value and Knecht, which made the economic studies for and designed the Hartford system. He said urban renewal projects such as the Hartford plan, completely new developments and extensive shopping centers are likely to have the concentrated air

conditioning needs which can provide profitable opportunities for this new utility service.

Analyzing urban redevelopment possibilities, Russell Gray, president of Carrier Air Conditioning Company, cited a list of 50 projects across the country which, with nearby buildings, would require an estimated two thirds to four fifths of a million tons of cooling. If utilities were to provide cooling and heating service, the gross revenues could total \$80 to \$100 million annually, he said.

The Hartford Gas Company's system will sell its air conditioning service in much the same way utilities currently distribute gas and electricity, with meters to determine the amount of steam and chilled water used by each building's air conditioning system.

The central plant will have an initial capacity of 6,500 tons of refrigeration and 150,000 pounds of steam. Chilled water supply and return lines two feet in diameter and steam supply and return pipelines a foot in diameter will extend some 3,600 feet from the plant. Carrier is supplying one 3,000 ton and two 1,500 ton steam-operated centrifugal cooling units plus one 500 ton steam-

energized absorption cooling machine.

The system initially will serve Constitution Plaza, which is a cluster of three office buildings, a hotel, a broadcasting facility and a shopping center being constructed as the first step in Hartford's huge downtown redevelopment plan. It will also handle air conditioning requirements for the main office building and a number of other buildings operated by the Travelers Insurance Company of Hartford, sponsor of Constitution Plaza.

The Hartford Gas Company expects eventually to serve the Bushnell Plaza and Riverview projects, both involving high rise apartment buildings as part of the redevelopment plan, and other new and existing buildings in the area, increasing the size of its central plant to at least 10,000 tons. The central plant building has been designed by Charles DuBose, Hartford architect, to permit this expansion in cooling and heating facilities. General contractor for the gas company system and for Constitution Plaza is the F. H. McGraw Company of Hartford.

Mr. Jebb said the new service will permit the gas company to increase its gas usage substantially during the summer months in order to produce steam-

A dream envisioned 20 years ago by the man who invented the first air conditioner will become reality in 1963 with the opening of Constitution Plaza, a \$35 million renewal project in the heart of Hartford, Connecticut.

All buildings on the 12-acre site, as well as many others in the downtown section of the city, will receive cooling from a public utility, the Hartford Gas Company, just as they obtain water, gas, electricity and steam.

This utility approach to supplying air conditioning service to large segments of our cities was first predicted by Dr. Willis H. Carrier who perfected the first air conditioning equipment in 1902. In 1940, Dr. Carrier wrote:

"With the general acceptance of air conditioning, we may even expect air conditioning of the future to be operated as a public utility and applied in large units to extensive areas in our largest cities.

"Meters will be invented which will measure the total amount of heating and cooling service delivered so that the occupants will pay for only what they receive, just as they now pay for electric lights or gas. Such a service can be provided at a considerably lower cost and with greater dependability than is possible with present individual air conditioning systems, even the largest."

Dr. Carrier died in 1950, but the company he founded has been awarded a contract to supply the refrigerating equipment needed to make his prophecy a reality.

generated cooling, thus balancing the currently heavy use of gas in winter.

Mr. Roos stated the central plant approach had proved to have important advantages in a number of systems designed by his company.

"Let us compare a central plant serving for example 20 buildings with the total owning and operating cost if each of these 20 buildings had its own heating and cooling plant," he said.

In addition to eliminating the need to duplicate equipment, Mr. Roos said the central plant approach cuts first cost per ton for cooling equipment, can lower fuel costs through quantity discounts, frees building space for more useful purposes, relieves the building operator of some of his capital investment and his mechanical responsibilities, and permits better smoke control.

The chief disadvantages affecting central plants are the length of pipelines and the problems of putting them underground and establishing the need for a concentration of air conditioning requirements in one area, which frequently occurs in urban redevelopments, Mr. Roos declared.

Industrial relations

(Continued from page 12)

According to Mr. Bennett's intermediate report, Clayton Smith, president of the culinary workers, visited the establishment and left a copy of a 20-page labor contract that included a clause requiring all employees to join the local within 31 days. When the cafeteria opened and the contract remained

unsigned, the picket line showed up.

In support of its claim that it operated only an advertising picket line, Mr. Bennett said that the union demonstrated that no literal demand was made on Crown for recognition or to sign the contract and that the picket signs did not refer to these topics. He observed:

"While these contentions of respondent as to the facts are supported

by the record, the board has regularly and realistically inspected all the circumstances surrounding picketing in order to arrive at a conclusion as to the true purpose thereof."

Mr. Bennett thought that the preponderance of the evidence supported the position of the board's general counsel that an objective of the picketing was to achieve recognition and a contract.

Good telephone manners are aid to good customer relations

Good manners are as important over the telephone as they are when people are face-to-face. According to two experts on the subject—Paul Mills and Bernie Roberts, authors of "Speak Well—Sell Well," a new handbook on telephone selling—people will remember you if they like your telephone personality. Ways for creating and improving your telephone "image" are spelled out in the book, ranging all the way from removing cigarette, cigar or pipe from mouth when speaking, to putting enthusiasm into everyday words. An important clue to success, they point out, is nothing more than smiling when you speak. People smile back when you say things like "It's a pleasure to talk to you." . . .

"It's nice to hear your voice." . . . "I hope you're feeling fine."

Eight good habits of telephone usage should be developed, the authors advise:

Answer promptly. People don't like to be kept waiting. Their time is precious, too. Their irritation creates a handicap which could have been avoided.

Silence isn't always golden. When you're looking up information or connecting the listener with someone else, let him know frequently that you appreciate his patience. Thank him for waiting.

Don't bang the receiver down. Most of the time it's done unintentionally. But what should have been a profitable friendship blows up with a bang. Your listener knows you're telling him where

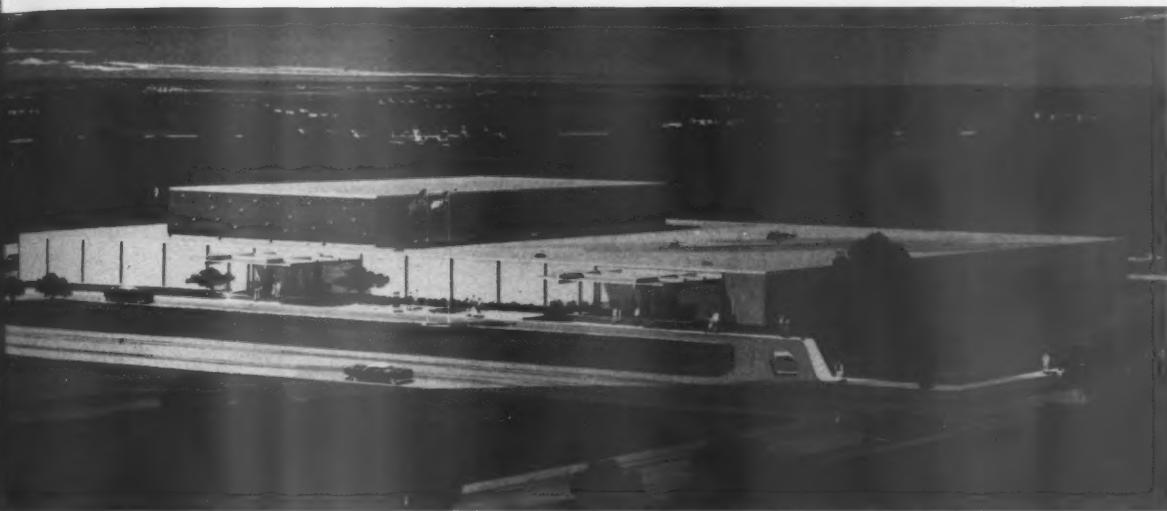
to go . . . and you've lost a friend.

Sit tall and stand tall. When telephoning, watch your posture. Don't squeeze your telephone between your head and shoulder. It makes you talk out of the side of your mouth; it sounds rough and tough. Keep your head level; you'll relax your voice by having the room move your jaw and lips.

Picture the person you're calling. Visualize a smile on his face. Imagine yourself in his presence and look him right in the eye! Watch his reactions. Give him a chance to talk, too. Listen to the tones of his voice and you'll hear what's behind his words. Imagine that you're talking right into the ear of your listener . . . you are, you know.



Gas power plant can save billions in school costs



At top, advantages of gas turbine power plants for schools are discussed by D. Dana Price, J. Lloyd Trump and Joseph J. Vincent. Bottom, artist's drawing of the gas-powered Southpark High School, Beaumont, Texas, now being built

A \$2-billion bonanza for the nation's taxpayers over the next 10 years has been made possible by a revolutionary plan for producing low-cost energy in the modern school.

This whopping tax savings can be realized, A. G. A. announced at a press conference in New York, by installing natural gas turbines in new-type compact schools built to accommodate increased secondary school enrollment during the coming decade.

Speaking to an audience of editors, educators and engineers, A. G. A. Managing Director C. S. Stackpole said substantial economies in owning and operating schools are promised in a new gas industry research study just com-

pleted by Golemon & Rolfe, Houston, Texas, engineering and architectural firm.

The report discloses that a 2300-student air conditioned compact school with natural gas as its only source of power can be built for approximately \$2.3 million—about 16 per cent less than the present conventional type of the same size without air conditioning.

An estimated \$9½ billion would be needed in the next 10 years to build sufficient schools of present design and standards, he said, referring to U. S. Office of Education predictions that secondary school enrollment will increase by some 8½ million in the next 10 years.

A 16 per cent cost reduction under the

new plan adds up to \$1.5 billion. Lower first costs in construction will result in savings of \$45 million in insurance and \$32 million in reduced interest on bonded indebtedness.

From the standpoint of maintenance and operation, an estimated \$670 million can be saved with gas-powered schools when compared to schools using conventional energy.

One of the nation's major taxpayers itself (\$944 million in federal, state and local taxes in 1959), the natural gas industry initiated the research study for several reasons, including the desire to help build better schools in the thousands of communities it serves, to help provide substantial relief from mounting

tax burdens and to demonstrate the merits of using natural gas as the sole source of low-cost energy in school buildings.

Conclusions of the report were presented for the first time by D. Dana Price, chief engineer for Golemon & Rolfe on the conference program which also featured two prominent educators.

J. Lloyd Trump, associate secretary, National Association of Secondary-School Principals, Washington, D. C., called for careful long-range planning for tomorrow's schools. Many uneconomic procedures must be eliminated to offset some of the added costs of future education, he said.

Among these he cited: using the time and energies of professional teachers for sub-professional, clerical and policing activities; organizing all instruction, regardless of type and purpose, in the same-sized classes; using teacher and student time more than desirable to produce community entertainment beyond that required by reasonable educational goals; and keeping school buildings closed in late afternoon, evening and Saturday hours, and for several weeks in the summer.

Acceptance of the new-type compact school to help meet the demands of a fast-growing student enrollment was described by Joseph J. Vincent, superintendent of South Park Independent School District, Beaumont, Texas. Such a school is being built in his district, Mr. Vincent said, as a means of getting more and better classrooms for less money. This approach has been hailed by taxpayers, he said, because five bond issues totalling \$11½ million were needed between 1947 and 1959—each time winning by a progressively closer vote as indication of growing concern over mounting taxes.

Mr. Price described the gas turbine as a "stationary cousin of the aircraft jet engine" and declared it is "a far more efficient and dependable power source than any other commonly available." Among advantages of the gas turbine to meet all energy requirements of the modern school, he cited the following:

It drives an electrical generator to provide high frequency power for better lighting and 60-cycle power for motors and convenience outlets.

Its exhaust heat can be saved, running it through a waste heat boiler to make steam or heat water. The steam can be used to run an absorption air condition-

ing system to heat water for showers and kitchens, and for steam cooking.

It provides direct heating for various purposes.

The all-gas air conditioned school of compact design is estimated to cost \$468,000 less to build than the conventional non-air conditioned school—and \$6,362 a year less to operate, the research report points out.

Compared with a compact school using purchased electrical power, the all-gas school will operate for about \$14,600 less annually, he estimated.

In summarizing the history of the compact school study, Mr. Price said:

"When we presented the findings of some research we completed in secondary school design to the press about a year ago, we thought the 'Environment for Learning' type of secondary school was a complete work. We created a high school of the compact type that was completely air conditioned and which provided an ideal environment for teaching and learning—one in which the pollen, dust, noise, glare, heat, cold, and all other unfavorable characteristics of the open conventional school were eliminated. This school was designed on the same program for 2,300 students as an existing conventional, non air conditioned school.

"Our research indicated that this ideal school, with its completely controlled environment, could be built for up to 20 per cent less first cost than the conventional school, and even though it cost more to operate per month, it did provide a lower owning and operating cost over a 20-year amortization period because of its lower first cost.

"The first cost savings were good and there was no trouble there.

"However, the additional cost per year of operating the compact school using purchased electric power was \$8,229.00.

"This made people in smaller towns ask—Why? They answered their own questions. It is the cost of operating the air conditioning, they reasoned. Then some of them said—We do not have air conditioning in some of our homes or offices. Will the taxpayers think we are extravagant if we air conditioned our schools and have to spend \$8,229 more per year? This frightened a lot of conscientious school board members away from the compact school and they tried all sorts of compromise designs—none of which gave them the kind of school they needed.

"At this time the gas industry became interested in this problem and our firm was commissioned to extend the research on the compact school and to try to find a mechanical and electrical system that would provide a savings in annual operating cost to complement the saving in first cost that the compact school offered.

"This at first sounded like an impossible task, but there was a development born in the necessity of war and fostered by the demands of faster peace time travel that immediately offered tremendous hope. This was the stationary version of the jet engine—the *gas turbine*. The jet engine had proven seven times as reliable as its piston type reciprocating predecessor. Its smooth continuous motion in the same direction afforded many more hours of operation between overhauls. Its small number of simple parts meant that complete overhauls were much less costly and required less time. Here, it seemed, was a prime mover that was reliable and which could operate on inexpensive natural gas for longer hours between overhauls.

"We traveled to gas turbine plants over this country and Canada to find what turbines were available, in what sizes, and what auxiliary equipment could be obtained. We found a huge, bright new industry managed by people of vision—an industry accustomed to doing new things with a reliability that was unbelievable.

"Here was an industry that had gas turbines developed and in operation in sizes from 30 horsepower up to thousands of horsepower. We found turbine generator sets that would deliver 60 cycle power or 400 cycle power. We found that the airplane industry had standardized on 400 cycle power some years ago and that this equipment could be obtained at good prices and free development charges.

"The high frequency generators fascinated us because here was another place where we could do a better job for less money. We had provided high frequency lighting for a very important client recently who wanted the finest lighting quality. At the same time, we had saved considerable money in fixture cost and electrical distribution, but the cost of converting power from 60 cycle to 80 cycle was very high. Here, however, it was easy to reason that if we used gas turbines to generate high frequency

(Continued on page 24)



Adolescents find strong identification with characters and situations of "Do Come to Dinner." Above, Home Ec students at a Brooklyn high school view film and follow-up cooking demonstration

Gas movie wins teenage fans

Remember Sally—the one who was leading cheers during last season's football games? Well, by George, she's pushing a baby carriage this fall!

And so is Susan, and Jane, and Judy, and a lot of other kids we were thinking of as teenagers only yesterday.

Along with this startling tendency of teenagers to grow up come a host of other things—like husbands, and homes, and kitchens, and heating plants, and new customers for gas.

Right now, while we are mulling over these rapid changes, several thousand teenagers probably are bursting into matrimony and more than likely several blessed events are occurring right around any corner.

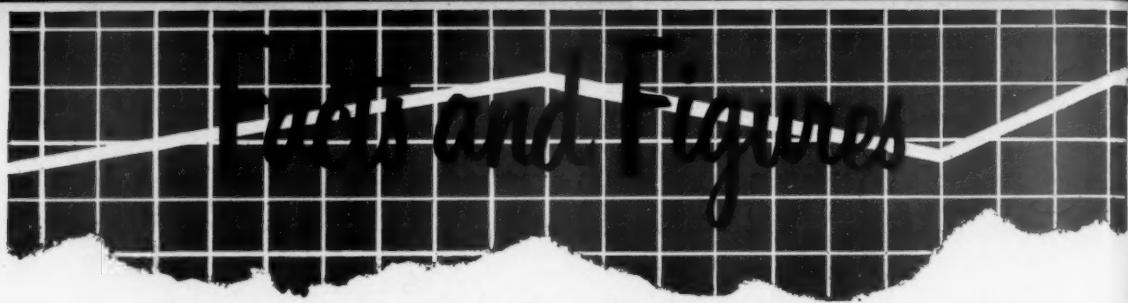
Predictable as these phenomena may be, they are happening in greater numbers each year. Our population as a whole will increase during 1961-62 by about 4 per cent, but teenagers as a group are going to be 40 per cent greater before the end of next year. The interest in homemaking that followed World War II produced results which are now crossing the 13-year threshold in bumper numbers.

A number of alert gas companies are doing more than mull over statistics. With the assistance of A. G. A. and the cooperation of *Living for Young Home-makers* magazine, ad and public relations departments are preparing teenage students for life after graduation, with gas.

Knowing that as goes the kitchen so goes the house, these companies are aiming to pre-condition their soon-to-be customers toward gas for their ranges and refrigerators.

The tool at work is a half-hour educational film, carefully written, edited and filmed to be favorably received as part of the home economics curriculum in high schools and junior highs. No brand names are mentioned nor products plugged, but the generic "Gold Star" term is explained and the Gold Star features are promoted visually with full-screen close-ups.

Two teenagers are the stars of the film. One has written a fan letter to *(Continued on page 29)*



Prepared by A. G. A. Bureau of Statistics

Total utility sales of gas to ultimate consumers during December, 1960, amounted to 9,295 million therms, a relative decrease of 0.5 per cent when compared to figures for December, 1959. Utility sales to residential and commercial customers in December increased 4.1 per cent to a total of 5,702 million therms. Industrial consumers utilized 3,593 million therms, an amount equivalent to a decline of 7.1 per cent from industrial sales made in December, 1959. The decline in industrial sales is comparable to the diminution in industrial activity (minus 6.7 per cent) as measured by the Federal Reserve Board.

Total gas sales for the 12 months ended December 31, 1960, amounted to 91,935 million therms, an increase of 4.6 per cent over sales in the preceding 12-month period. Industrial sales increased by 1.3 per cent to 46,210 million therms, while residential and commercial sales of 45,725 million therms were equivalent to an 8.3 per cent gain. The latter increment is principally accounted for by an increase in the saturation of gas appliances, as well as customers in the residential and commercial classes.

New housing activity continued to decline in December, as it has done throughout this year. December, 1960, non-farm housing starts are 23 per cent lower than the same month last year. Because average construction costs for new homes has increased slightly and because activity in the non-residential segment of the private building industry remains vigorous, the total dollar value of new private construction in December has increased by 1.0 per cent from the comparable month one year earlier.

Shipments of all competitive appliances declined during the month of December, as well as during the 12-month period ended December 31, 1960. Sales of all gas ranges were 1,815,800 units, a decrease of 9.8 per cent. Automatic gas water heaters declined by 9.9 per cent to 2,661,500 units. Shipments of gas central heating equipment were 1,174,028 units, down 7.3 per cent from 1959.

SALES OF GAS AND ELECTRIC RESIDENTIAL APPLIANCES DURING DECEMBER, 1960

(WITH PER CENT CHANGES FROM THE CORRESPONDING PERIOD OF THE PRIOR YEAR)

	December		November		First 11 Months 1960	
	Units	Per Cent Change	Units	Per Cent Change	Units	Per Cent Change
RANGES (including built-ins)						
Gas	117,600	-25.1	144,500	-9.6	1,815,800	-9.8
Electric	113,500		117,500		1,512,500	
WATER HEATERS						
Gas	181,400	-6.0	171,900	-13.7	2,661,500	-9.9
Electric	47,300	n.a.	52,300	+68.7	668,500	-6.8
GAS HEATING—total						
Furnaces	68,777	-5.6	94,314	-26.0	1,174,028	-7.3
Boilers	55,000	-15.5	73,200	-16.3	899,700	-14.6
Conversion burners	6,877	-6.9	11,314	-7.7	141,728	-4.0
	6,900	-11.5	9,800	-29.0	132,600	-15.1
OIL-FIRED BURNER INSTALLATIONS						
	36,525	-26.3	44,191	-28.8	516,863	-19.1
DRYERS						
Gas	38,616	-20.0	247,778	-18.0	430,827	-10.0
Electric	80,090	-7.0	94,271	-4.0	807,140	-11.0

Sources: Gas Appliance Manufacturers Association, National Electrical Manufacturers Association, "Fueloil and Oil Heat," and American Home Laundry Manufacturer's Association.

GAS SALES TO ULTIMATE CONSUMERS BY UTILITIES AND PIPELINES DURING DECEMBER

(MILLIONS OF THERMS)

	Month of December			Twelve Months Ended December 31		
	1960	1959	Per Cent Change	1960	1959	Per Cent Change
Natural gas						
Natural gas	9,025.9	9,077.8	-0.6	89,609.9	85,517.5	+4.8
Manufactured and mixed gas	269.4	265.4	+1.5	2,325.2	2,339.3	-0.6
Total gas	9,295.3	9,343.2	-0.5	91,935.1	87,856.8	+4.6
Residential, commercial, and other	5,702.6	5,476.5	+4.1	45,725.2	42,227.1	+8.3
Industrial	3,592.7	3,866.7	-7.1	46,209.9	45,629.7	+1.3
Indices (1947-1949 = 100)						
Total gas sales (A. G. A.)	284.3	285.8	-0.5			
Residential, commercial, and other (A. G. A.)	303.7	291.7	+4.1			
Industrial (A. G. A.)	258.2	277.9	-7.1			
Daily cumulative degree days						
Month of December	913	691	+32.1			
Season to date (total—July through December)	1,738	1,640	+6.0			

PERTINENT BUSINESS INDICATORS, DECEMBER

(WITH PER CENT CHANGES FROM THE CORRESPONDING PERIOD OF THE PRIOR YEAR)

	December			November		
	1960	1959	Per Cent Change	1960	1959	Per Cent Change
Industrial activity, FRB (1947-49 = 100)						
Industrial activity, FRB (1947-49 = 100)	156	165	-6.7	159	156	+1.9
Consumer prices (1947-49 = 100)	127.5	125.5	+1.0	127.4	125.6	+1.4
Housing starts, non-farm (thousands)	72.1	93.6	-23.0	94.6	104.3	-9.2
New private construction expenditures (\$ million)	3,130	3,108	+1.0	3,398	3,492	-2.7

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ITHLY

Gas dishwasher developed by Preway, Inc., has a trim cabinet, handy workspace atop

Gas dishwasher makes debut at Florida meet

A brand-new gas appliance, a gas dishwasher developed by Preway, Inc., had its world premiere at the January sales conference of the Florida Natural Gas Association, held in Clearwater, Florida.

The conference, attended by more than 200 Florida natural gas men and women, also heard a report on utilization of gas engines and gas turbines as prime movers and the recovery of waste heat from them for use in heating, water heating and absorption air conditioning.

The new gas dishwasher was dramatically presented and unveiled by Harvey T. Anderson, Preway vice president-sales, and Willard W. Johnson, director of utility sales.

"This," Johnson declared, "makes an honest woman out of Julia Meade. Now, when she talks about and sells all-gas kitchens, the industry can really deliver one."

Anderson said the dishwasher is the result of over 15 years of research and development by Preway. It incorporates sound hydraulic and mechanical principles and four basic features which, he said, set it apart from other dishwashers. They are:

- 1) Radial wash arms.
- 2) Complete flexibility in racking.
- 3) Thermostatically controlled gas water heater.
- 4) Hi-temperature sanitation rinse and drying zone.

Water is distributed through slowly revolving radial arms from both sides of



W. J. Bowen, The Houston Corporation, tells expansion plans. Seated, C. E. Cloud, MidSouth Gas; J. T. Bills, FNGA president; F. W. Williams



New automatic gas dishwasher is displayed to FNGA sales conference delegates by Preway's H. T. Anderson, right, and W. W. Johnson, left

the tub. Raised ports in the arms scientifically direct the water distribution. Racking is designed so that dishes, cups and glasses will receive a direct water force in any location in the machine.

Water is preheated by means of a burner to a thermostatic requirement of 160 degrees before the unit goes into the wash cycle. The cycle consists of one 10-minute wash and two six-minute rinses. In the second or final rinse, the water is preheated to 180 degrees, the temperature required to meet federal health and sanitation code requirements.

The washer has a capacity of service for 12. Thus, it can do the breakfast, lunch and dinner dishes for a family of four in a single operation.

Its dimensions, 24-inch width, 34½-inch height and 24-inch depth, permit it to be fitted neatly under any standard counter. A patented "Quick-Connect" is provided so that three lines—water, waste and gas—are connected simultaneously. Mr. Anderson said the selling price would be disclosed later, when Preway gets into production.

It was I. E. Rowe, director of utilization for United Gas Corporation, who brought the Florida natural gas people up to date on gas engines and turbines as prime movers and utilization of waste heat.

Mr. Rowe told of a number of prospective building owners who now have their engineers working on economic studies for power generation with gas turbines or gas engines, the waste heat to be recovered for low pressure steam operated absorption refrigeration units. He said one such installation, using a gas turbine,

has already been made in a large shopping center in Shreveport, Louisiana.

Rowe described the gas turbine as the land-based brother of aviation's jet engine which, he said, had compiled an amazing record of one-twentieth the failures in flight and one-eighth the premature removals for overhaul of reciprocating engines.

"Many industry executives," Rowe added, "now see the application of the gas turbine as an outstanding example of load building on the customers' premises. In several ways, the gas turbine fits very significantly into any plan for selling gas fuel to be used in large tonnage air conditioning installations."

Other speakers supported the conference theme—"Nothing Happens Until a Sale Is Made."

G. J. Tankersley, president, Western Kentucky Gas Company, warned the gas industry that it had better follow Satchel Paige's advice about not looking back or you might see somebody gaining on you.

"If we look back we'll see the electric industry gaining on us for our heating load," he said.

"The electric heating industry is a reality, with over 70 manufacturers in the business and 600,000 installations at the close of 1959.

"The reason the electric heating industry is a reality is because they want the load—it is that simple. If the gas industry wants to retain its heating load, it has everything in its favor, except entirely too many people who are not willing to be ruthlessly aggressive in fighting the competition and not willing to spend the money to tell the honest facts of the

glamour and the advantages of gas heating."

Frank Williams, A. G. A. special representative, urged gas utilities to pay more attention to training sales people.

"A natural born salesman is for the birds," he declared. "The great salesmen are the ones who have been trained."

Carl E. Cloud, president, MidSouth Gas Company, urged company chief executives to devote more time to making all employees of their companies sales-minded.

Other speakers on the two-day conference program included John T. Bills, president of the newly reorganized Florida Natural Gas Association, and vice president-corporate relations, Peoples Gas System of Florida; W. J. Bowes, president, The Houston Corporation; Alec Chesser, advertising and public relations manager, Houston Natural Gas Corporation.

Fred C. Holbrook, vice president, M. M. Hedges Manufacturing Co.; E. H. Mattson, Rheem Manufacturing Co.; R. F. Horan, director, Janitrol Institute of Dealer Management; John J. Clark, Jr., vice president, Noland Credit Co.; John J. McKearin, general sales manager, Laclede Gas Co.

Ralbem H. Murray, secretary, Industrial & Commercial Gas Section, American Gas Association; and E. A. Nash, director of gas appliance service, Norge Sales Corporation.

Co-chairmen for the conference were H. H. Phipps and C. H. Avery of The Houston Corporation, St. Petersburg, and B. C. Paul, St. Petersburg Municipal Gas Department.

Convention

(Continued from page 3)

musical comedy and variety shows.

Lone Star Gas Company, whose headquarters are in Dallas and whose president, L. T. Potter, is current A. G. A. president, always presents a full program of gas industry exhibits at the Fair. Exhibits and demonstrations are conducted at the company's own building, which is located near the Fair's gigantic Midway. Dallas also contains the executive offices of Southern Union Gas Company, which serves portions of Texas, New Mexico, Arizona and Colorado.

Dallas is sprinkled with ultra-modern hotels, and A. G. A. will utilize four of the finest during the convention. The all-gas Statler Hilton will serve as headquarters for the General Management Section, and the Statler Ballroom will be the site of at least two of the three General Sessions. The Residential Gas Section and Industrial and Commercial Section will maintain headquarters at the Sheraton-Dallas; the Op-

erating Section will be at the Adolphus; and the Accounting Section will be at the Baker. An additional block of rooms has been reserved for A. G. A. conventioners at the luxurious new Marriott Motor Hotel, directly across from the Dallas Trade Mart and only a 5-10 minute drive from the center of town.

In addition to the full program of general sessions and Section meetings planned for delegates, special arrangements are being made for ladies' entertainment, including luncheons and other social events, according to L. A. Bickel, vice president of Lone Star Gas Company and Chairman of the A. G. A. General Convention Committee. David J. Kerr, executive assistant, Southern Union Gas Company, is Chairman of the Convention Entertainment Committee.

This will be the first A. G. A. Convention ever held in Texas, and gas men of the host state are certain that delegates and visitors to the annual meet will discover and approve the special flair and charm of Southwestern living as typified by Big D—"Dazzling Dallas."

Accountants find profits pilfered by an elusive breed who disconnect, quietly slip away

The 'Vanishing American'

By FRANCIS T. HAGER

Manager, Collection and
Meter Reading Department
Philadelphia Gas Works
Division of The United
Gas Improvement Company

At the outset, let me assure our readers that the title of this article has no connection whatever with the original inhabitants of this continent, or their gradual disappearance from the American scene.

To make my opening point I have taken the liberty of quoting a paragraph from the "Credit Picture" presented recently at the A. G. A.-E.E.I. Accounting Conference:

"In a sense, we're like boatmen rowing upstream against the current and sometimes without oars. This can be attributed to many factors. Among them: the 'Vanishing American' continues to vanish; John Q. Public tries to emulate Uncle Sam with his growing national debt; many people become so obsessed with the philosophy of 'buying now, paying later' that they end up by paying never; and spending oneself into bankruptcy seems to have become part of the American way of life."

This particular paragraph referred to the apparent inability of the utility companies across the land to "hold the line" on losses. For example, the loss rate per customer from 1955-59 was about 2½ times the rate of increase in sales dollars per customer.

The number of accounts charged-off during these years increased by some 23 per cent, while the net charge-off in dollars increased by 72 per cent. The gas companies led the pack with a dollar increase of 96 per cent.

In a number of companies, a large contributing factor to the dollars charged-off is the customer shut off for non-payment, who does not pay the amount due and have service restored.

This, then, is what we collection men refer to as the "Vanishing American."

A. G. A.-E.E.I Accounting Conference to be held in St. Louis, April 17-19

"Performance and Profits" will be the theme of the 1961 National Conference of Electric and Gas Utility Accountants, to be held April 17, 18 and 19 at the Chase and Park Plaza Hotels in St. Louis, Missouri.

Problems of top importance to accounting and financial men will be discussed by outstanding speakers. Talks will include "Why a Profit?" by Carl A. Ulffers, Jr., American Telephone & Telegraph Co.; and "People, Profit and Persuasion," by Dr. Tennyson Guyer, Cooper Tire and Rubber Co.

Other topics will include operational auditing, work measurement concepts, quality control, budgeting, and automatic meter reading. Various phases of customer relations and collection problems will be covered. In the areas of electronic data processing, presentations will cover the effect of E.D.P. on employees as well as various practical applications.

Additional details and advance programs may be obtained from the Accounting Section, A. G. A.

This has become a vexing problem to a large number of companies, particularly straight gas companies operating in large urban areas. Electric and combination companies are also experiencing difficulty in this respect but to a much lesser degree.

It seems quite obvious that disconnections of electricity would tend to be restored more rapidly than gas due to the variety of uses of electricity such as radio, air-conditioning, television, and so on. In the area of house heating the gas industry's experiences more or less parallel the electric industry's, in that restorations are high in number and are made quickly.

Again using the figures of the recent "Credit Picture" release we find a rather startling anomaly. During the years 1955-59, when employment and wages reached all time highs, we find non-payment disconnections in gas companies increased 62 per cent, and electric companies by a whopping 71 per cent. It should be noted that for combination companies, for some unexplainable reason, the increase was a mere 20 per cent.

As was mentioned earlier, the non-payment disconnections are seemingly the signal for a great number of our customers to find ways and means of disappearing from the scene.

For instance, questionnaires were mailed to members of the A. G. A.-E.E.I. Collection Committee in an attempt to gather some statistics for this article.

Twelve gas companies were solicited, and of these, nine were able to relate the relationship of bill-paid turn-ons to non-payment disconnections. The highest of the gas companies in ratio was 75 per cent with the lowest 40 per cent. The

average was 62 per cent. Imagine, if you will, a company with the problem of having a mere 40 customers, of every 100 disconnected for non-payment, paying their bill and having service restored. This company, incidentally, is a large company operating in a condensed urban metropolis.

Nine electric companies were solicited and eight were able to supply the answer. The highest was 95 per cent, the lowest 70 per cent with the average 86 per cent. The results present a startling contrast between the two kinds of services.

Let us take a good look at this "disappearing" customer and see if we can determine what makes him tick, or more appropriately, what makes him vanish. It seems safe to assume that he is not a man of means; he is not a stable customer; he is not a customer of long standing; he is not a property owner and, in more instances than not, he has neither the ability nor the intent to pay his obligations.

It appears easier to determine what this "disappearing" customer is not than to determine what his image represents.

In this connection, from our own experience, and from information solicited from other companies there emerge these groups:

- (a) transients
- (b) name changers
- (c) those having domestic problems
- (d) dead beats
- (e) customers living in sub-standard housing areas

I do not want to give the impression that non-payment disconnections are the only cases where the above descriptions fit, because there are possibly just as many who perform the disappearing act before the collection people have a chance at them. For instance, there are many cases where houses are found va-

cant when the meter reader calls or where bills are returned by the post office marked "not at" or "moved, address not known."

It should also be remembered that a goodly number of these "disappearing" customers do so because of the growing tendency of the utilities to render superlative service, almost unlimited credit, and less frequent meter readings and billings.

It is quite conceivable that loss to this type of customer falls in the category of being a calculated one and should be accepted with that thought in mind.

Certainly all remember the days when collection action was taken on practically any rendered bill, regardless of the amount. As labor costs mounted and companies became more customer-relations conscious, the minimum amounts for collection action rose, and are still rising in most companies.

The customer with limited means, and in many cases obtaining some sort of assistance from the City, State or Federal Government, is put in the position of having unlimited utility service at his disposal. This is particularly true in the gas business where additional or supplemental heat is required. These "distress" heating cases as they are commonly known, make up a large portion of the "uncollectible" non-payment disconnections.

Certainly all collection men recognize the hazards involved in allowing customers in sub-standard areas to have this much credit when actually they would experience difficulty in paying a nominal monthly bill.

I do not advocate the return to the days of action on any amount billed, but I do believe that this problem came into being because of too-lenient company policies, rather than an effort on the part of the customers.

Now that the reason for the title has been established, and the "villain" ex-

posed, we collection men should attempt to analyze this type of customer and see if there are any known remedial steps that could be taken, to enable us to keep losses from such accounts at a minimum or at least to stop the upward surge.

High on the list of "musts" would be an attempt to secure adequate information at the time the account is opened. Over the years there has been a tendency on the part of many companies to obtain less and less information on service applications. In areas where losses are small, this philosophy is sound, but in "high loss" areas a different set of ground rules is called for.

An increasing number of companies have adopted "area classification" in their attempt to combat high losses and pin-point the areas of stress.

This policy, as it is applied in most companies, declines to accept telephone applications from new customers in high loss areas, and refers them to a district office. In addition, they insist upon identification and sufficient deposit coverage where information indicates need.

The companies using area classification all reflect a high degree of optimism regarding the effect on their losses.

As a follow-up to the tightening of credit there naturally has to be a tightening of collection policies. In areas that reflect losses to a high degree, there should be a firm, almost no-compromise set of rules, with the acceptance of partial payments an exception rather than the rule.

In this connection, a minimum amount should be established for collection activity in such areas, bearing in mind the ever elusive and almost indefinable break-even point.

In conclusion, it behoves all of us who are involved in collection work to take a good look at our losses, and particularly at the role "The Vanishing American" may be playing.

Research and utilization

(Continued from page 9)

models of recent research developments.

Besides these events scheduled during the three days of morning and afternoon sessions, two luncheon meetings will feature addresses. Speaker at the opening day luncheon on Tuesday will be Lester T. Potter, president of A. G. A. and president, Lone Star Gas Company.

Wednesday luncheon speaker will be E. B. Connell, senior vice president, Standard Oil of Ohio. Thursday's luncheon event will be the "Off the Record" discussion, conducted by Ralph Mitchell, Philadelphia Electric Co.

Keynote address at the opening morning session on Tuesday will be delivered by W. G. Hamilton, Jr., president nominee of the Gas Appliance Manufacturers Association.

Chairman of the conference is P. J. Reynolds, vice president and manager, Northampton Gas Light Company. The conference is sponsored by A. G. A.'s Committee on Domestic Gas Research, Joe C. Darrow, chairman, in cooperation with the A. G. A. Utilization Bureau.

Preregistration forms and detailed information may be obtained from the Research Department at A. G. A. Headquarters.

Three-day schedule includes Commercial Gas Day, general sessions, Industrial Gas Day

North to Ontario for sales meet

The A. G. A. Sales Conference on Industrial and Commercial Gas will be held in The Prince George Hotel, Windsor, Ontario, Canada, on April 11, 12, and 13.

The Union Gas Company of Canada, Limited, will be the host, with Lloyd French serving as chairman of the task force responsible for the program and entertainment features of this annual Section affair.

Following custom, this three-day meeting will start with Commercial Gas Day on Tuesday, will include a general session on Wednesday, and will close with Industrial Gas Day on Thursday. Monday and Friday of the week will be given over to committee meetings.

Commercial gas men will be most interested in the April 11 morning and afternoon sessions which will open with a presentation detailing the "Facts of Life" and the many ways in which a Home Service department can assist in selling commercial cooking equipment.

It is hoped that the new motion picture, "One Chance," sponsored by A. G. A., the A. O. Smith Corp., Ruud Manufacturing Co., Hobart Manufacturing Co., and Economics Laboratory, Inc., will be released in time for a premier showing in Windsor.

For a frank look at the air conditioning market potential, William G. Wepfer of Arkla will present a "New Look at Our Air Conditioning Market Capability."

A candid analysis, "Straight from the Shoulder," by the famous food service operator, William O. Wheeler, will outline his reasons for switching from electricity to gas.

There is more to modern hydronics than the antiquated definition of "wet" heat, as Louis W. Roye's discussion of "Hydronic Space Heating Techniques" will make clear. He will be followed by "Commercial Sales Gimmicks," presented by Charlie Hanthorn, The Philadelphia Gas Works.

Concluding this first-day session will be a discussion by Norman Millard, Philco, on "The Coin-Operated Laundry."

A general session, which will occupy the middle day of the conference, will open with official greetings by R. R. Palin, General Manager, Union Gas Company of Canada, Ltd.

A number of thought-provoking papers will be presented, including "Lease Financing—A Marketing Aid," by Vincent J. Barry, vice president, American Industrial Leasing Company; and "Let's Sell the Total Gas Package," in which Charles C. Ebles will tie a ribbon around a modern concept of what the gas package is.

"Where To . . . American Industry?" by Gerald G. Fisch, Montreal, will suggest some remedies to meet the challenge of foreign competition. Also on the program for this day will be past Section chairman Fred A. Kaiser, who will give a "grass roots" lecture entitled "Let's Get Back to Selling."

It is traditional that on the middle day of the conference certain awards are presented. This year, the GAMA PEP Prize Contest awards will be given, and certificates of life membership in the Hall of Flame will be presented to those who have qualified during the past year.

Of major interest to industrial gas

men, Thursday's program will include such talks as "The Natural Gas Engine Market," by T. J. Davison of Caterpillar; and "Oxy-Gas Applications," which will be presented by E. F. Kurzinski, Air Products, Inc.

Robert C. LeMay and C. W. Morck, Selas Corporation of America, will jointly present "3,000° F. and Higher." A. G. A.'s assistant director of research, Robert B. Smith, will follow with "Gas Turbines for Profit."

Other papers on this last day will be "Direct-Fired Heating of Process Make-up Air," presented by Lowell Crouse, Maxon Premix; and "Special Gas Rates as a Marketing Aid," by William Crowley, Northern Illinois Gas Company.

Presiding officers at the respective sessions will be L. J. Fretwell, Section chairman, in the mornings, and W. D. Relyea, vice chairman, in the afternoons.

The host company has arranged several hours of recreation. There will be special entertainment for the ladies, who will be feted at a luncheon on Wednesday, followed by a tour of historic spots and a trip through the plant of Hiram Walker & Sons.

A Canadian style dinner will be held at the Elmwood Casino in Windsor, with entertainment by well-known stars. The dinner will be preceded by the traditional Gas Appliance Manufacturers' Friendship Hour.

Bus transportation will be provided by the gas company for all trips away from the hotel. Times and details are given in the advance program, available from the Industrial and Commercial Section, A. G. A.

Gas power

(Continued from page 16)

power and if we would use standard equipment, we could obtain it at no premium in equipment cost and at considerable savings in energy cost. We decided we could generate high frequency power for lighting the compact school and could parallel available packages to provide whatever amount of power required and also provide a standby package at a nominal first cost. We decided to do the same thing for any 60 cycle power required for fan motors, pumps, convenience outlets, et cetera.

"We still had two other problems facing us. We had to air condition the building and we had a considerable amount of waste heat available from the exhaust of the gas turbines.

"We knew from the plants we had visited that waste heat boilers were already developed and were available. We decided to run the waste heat into such a boiler and to develop 12-pound steam to heat the building early in the morning, to heat water, and to operate an absorption chiller to provide cooling when required for that cycle of the air conditioning system.

"This proved to be an ideal situation. As we pumped heat into the building

through the turbine-generated lighting power, we produced chilled water with the exhaust gases which would remove this heat when pumped into the air conditioning system.

"The findings in this research study indicate the compact school can be maintained and operated for less money than the non air conditioned conventional school."

After presenting diagrams and explanations of the system and its principal alternatives, Mr. Price concluded:

"The development of the compact school with its controlled environment and its lower first cost creates the need for a mechanical system to match its first cost economy in operating. The gas turbine solution," he said, "fulfills this need. Just as the compact school produced a better controlled environment school at less first cost than the conventional open school, this solution provides a mechanical system which, even with air conditioning, can operate for less money than the non air conditioned school."

These two developments, Mr. Price stated, are important to:

"The student because he is provided a healthy, comfortable, interesting environment that minimizes distractions and enhances his opportunity to study

and learn.

"The teacher because of the opportunity to apply his ability in an atmosphere of optimum physical comfort and in classroom spaces designed to adapt to his varying needs of larger group instruction, smaller tutoring sections and individual supervised study rooms.

"The administrator because he can go to the school board with plans for an air conditioned school, ideal for teaching and learning, that costs less to build and less to operate.

"The business manager because he can purchase more school for less money, resulting in smaller bond issues, and can count on lower operating cost.

"The taxpayer because of his keen interest in the intelligent spending of his tax dollars. Although he will not sacrifice educational standards for false economies, he welcomes facts and findings which add up to better schools for less money and, as a result, the possible relief from some of the tax burden."

Copies of the Golemon & Rolfe report, entitled "A New Look at New Schools," are available either from Southern Gas Association or from Order Department, A. G. A. Prices per copy range from \$1.50 per single copy down to \$.65 per copy for orders of 1,000 or more.

Accidents down

(Continued from page 8)

ing the first nine months of 1960 represents a decline of 12.9 per cent from the frequency rate of 7.29 recorded during the first nine months of 1959. The total days lost due to disabling injuries

during the first nine-month period of 1960 decreased 21.8 per cent from the same period last year, dropping from 555 days lost per million man-hours of exposure to 434 days lost. During the first nine months of 1960 the frequency of vehicle accidents was 1.34 per 100,000 miles traveled. This represents a decrease of 3.6 per cent from the same

period of 1959. Based upon the continued reduction shown in the rate of vehicle accidents during the three quarters of the current year when compared with each respective quarter of the previous year, it appears that the gas industry will also improve its annual frequency of vehicle accidents over the last year.

Gas sales

(Continued from page 10)

research staffs of local colleges and universities to develop economic series measuring business activity in their own state and, if possible, for their individual service areas. The University of Pittsburgh index of general business for the Pittsburgh area is an excellent example of what can be accomplished in

this field.

Utilities are urged to develop sales data by coding major industry classifications (using the Standard Industrial Classification Manual) so that they will be in a position to analyze the effect of business changes on their industrial load. Changes in the business cycle do not affect all industries simultaneously or with the same volatility. Thus, for optimum results a utility must separate its

industrial load by major industry groupings, analyzing each group separately.

A copy of the report describing the *Techniques Used for Analyzing the Effect on Business Changes Upon Gas Sales* can be obtained by writing to the Bureau of Statistics, A. G. A. The procedures discussed in this report represent guides; they also point out some of the problems and limitations that were experienced in the study.



Philadelphia, rich in tradition, but up to the minute in urban redevelopment, will be the scene of the Operating Section's combined Distribution and Production Conference, May 8 through May 12, 1961.

The Conference will be held in the new Sheraton Hotel, located in the heart of Penn Center. This outstanding group of new buildings replaced the old Broad Street Station and tracks of the Pennsylvania Railroad, and is a noteworthy example of the revitalization of a once rundown area.

Only a few blocks from the hotel are located Independence Hall, Christ Church, Carpenters Hall, the Betsy Ross House, and other noteworthy historical monuments. Aside from the vital information to be exchanged during the five-day Conference, it will afford an excel-

lent opportunity for delegates and their wives to see both historical and modern Philadelphia.

The Conference schedule has been arranged as follows:

Topics of primary interest to distribution, corrosion, motor vehicle, and customer service men will be presented on Monday, Tuesday, and Wednesday. On Thursday and Friday the chemists, chemical engineers, and manufactured gas production men will attend sessions devoted to their fields.

Copies of the advance program have been sent to all individual members of the Operating Section, as well as to the delegates of all member gas companies. Each man attending the Conference should study the advance program carefully, and plan to be present on those particular days on which the topics will

be of interest to him. The combined Conference permits those whose interests cover a wide field to pursue those interests on a single trip, while those whose specialties are more sharply defined will find that attendance during only a portion of the Conference will enable them to benefit fully by the exchange of ideas in their specialty.

As in the past, the morning general sessions will be relatively formal, with presentations of vital interest to all. The afternoon sessions will be smaller, less formal, and more specific. Panels and audience participation will be a characteristic of most afternoon sessions.

During the five-day Conference, a total of 169 speakers and discussion leaders will take the rostrum. Among the outstanding speakers will be Lester T. Potter, president of A. G. A. and

president, Lone Star Gas Company, at the opening session Monday morning; and C. G. Simpson, General Manager of the Philadelphia Gas Works, Division of The U. G. I. Company, at the same session. A. H. Mogenson, Industrial Consultant, whose topic "Work Simplification—A Top Management Philosophy" should be of interest to all those attending the combined Conference, will speak at the Wednesday morning general session.

H. P. Wheeler, Jr., of the U. S. Bureau of Mines, who will bring the delegates up to date on the helium recovery program of the U. S. Government, and Kenneth M. Morse, director of Industrial Hygiene, U. S. Steel Corporation, speaking on the properties of safety solvents, will appear on the Thursday morning general session program.

An interesting and worthwhile feature of the Conference will be a display and demonstration of mobile equipment at the Philadelphia Municipal Airport, Tuesday afternoon, May 9. Free bus service will be provided between the hotel and the demonstration site.

"Gasarama," the exciting and stimulating presentation of the Michigan Consolidated Gas Company, will be presented at the end of the general session on Wednesday morning.

At the Monday morning general session, J. C. Bruckmann, general claims agent, Long Island Lighting Company,

will discuss factors which affect the claims picture, including actions by operating personnel. "Life: Mess, Mixture, or Masterpiece?", by Col. P. L. DeBevoise, retired national secretary of the Salvation Army in America, is expected to challenge delegates to some basic thinking. The Monday morning program will conclude with an A. G. A. sound motion picture in color, "Flame Propagation."

Elmer C. Schroeder, president, Vernon Graphics of Pennsylvania, Inc., will open the Tuesday morning general session with an illustrated talk on gas main mapping, stressing the use of photographic techniques. He will be followed by Charles J. Davis, manager, meter department, Long Island Lighting Company, telling "How to Make a Quality Control Program Work."

Forrest Hammaker, Jr., A. G. A. Laboratories, will let the delegates know "What's New in Cooking"; and the use of surveys to evaluate customer opinion will be described by C. R. DeHaven, Philadelphia Gas Works, Division of The U. G. I. Company. Last speaker on the program will be Marvin B. Travis, director of safety, Northern Natural Gas Company, discussing "Safety Factors of Corrosion Control Program." The program will be concluded with the showing of two films, "Fundamentals of Corrosion" and "Flame Propagation."

The general session Wednesday morn-

ing will begin with a talk on management's relation to corrosion control programs, by Solon Walker, East Tennessee Natural Gas Company. T. L. Robey, director of research, A. G. A., will describe the Association's research activities.

The opening session of the Production and Chemical portion of the combined Conference, on Thursday morning, will include prediction of the availability and future of natural gas, by Dr. Martin A. Elliott, director, Institute of Gas Technology.

The Builders' Report, presented by O. A. Gray, United Engineers and Constructors Inc., chairman of the Builders' Subcommittee, will summarize the development and construction work done during the past years by the builders of gas industry operating machinery and equipment. The latest developments in storage and transportation of low temperature fuels, as described by A. W. Mellen, Air Products, Inc., will be of interest to many delegates with peak-load and standby problems.

Specialized discussion sessions will be held as follows:

Monday Afternoon—Automotive and Mobile Equipment, Customer Service, Distribution Design and Development, and Metering.

Tuesday Morning—Automotive and Mobile Equipment.

Tuesday Afternoon—Construction and Maintenance, Corrosion, Customer Service.

Wednesday Morning—Automotive and Mobile Equipment.

Wednesday Afternoon—Automotive and Mobile Equipment, Construction and Maintenance, Corrosion, Distribution Design and Development, and Metering.

Thursday Afternoon—Chemical and Engineering and Production Methods.

Friday Morning—Manufactured Gas Production and Chemical and Engineering.

Friday Afternoon—Chemical and Engineering and Production Planning.

If a copy of the Advance Program has not been received, a postcard to J. Stanford Setchell, Secretary, Operating Section, American Gas Association, 420 Lexington Avenue, New York 17, New York, will bring one as long as the supply lasts.

Million dollar dispatching center in operation



This is part of the new gas dispatching center of Public Service Electric and Gas Co., Newark, N. J. The center is located at Journal Square, Jersey City, N. J. The main operations room is a closed ellipse formed of 28 telemetering panels totaling 38 feet in length. Ten of the panels are operative.

Philadelphia Gas Works' method for systematic surveys of underground facilities heads off emergencies

Techniques for main inspections

By RICHMOND C. HOLCOMBE
and LEONARD ORLANDO

Philadelphia Gas Works
Division of The United
Gas Improvement Company

The Philadelphia Gas Works Division of The United Gas Improvement Company has had the survey inspection policy in effect, as a standard procedure, for approximately six years. However, this method of survey inspections has been followed even longer. In the early years, survey inspections were made as manpower was available and when judgment indicated it was desirable. It became a full time program, for which supervision, manpower, and equipment were provided, in 1954. It is of interest to know that many other inspections of our system are made, such as inspections of openings by other utilities and contractors, as well as inspections of openings resulting from other underground structure failures.

The magnitude of our company's responsibilities in connection with the distribution system and its responsibilities to the public and the city is as follows:

The Philadelphia Gas Works is a municipally-owned property in existence close to 125 years, having been established in the year 1836. The property has been managed by The United Gas Improvement Company since late in the year 1897.

The distribution system is that part of the plant which carries gas to the customers. The source from which our responsibilities start is on the city perimeter at the city gate stations where natural gas enters the city to the manufacturing plants. At the manufacturing plants the gas is processed and then

carried through the distribution system to the customers' property.

Our gas is a mixed gas of 750 Btu, the constituents being many and varying according to the seasons of the year.

Our mains—those pipes which run parallel to the streets' curbs—vary in size from 2" to 48". The major part of this system is of 4" and 6" size. There are 2,691 miles of gas mains.

In our system there are 528,000 services which are mostly 1 1/4" size. Services are the laterals which carry gas from the mains to the customer's property.

Our need for this survey inspection program is the fact that this is a tremendous and invisible underground system and, therefore, it must be inspected to avoid emergency troubles. The program which is to be described is a preventive maintenance program and is well described as an "aggressive" program to find trouble before it results in emergency notice from our customers.

The distribution plant operations are limited to the area within the City of Philadelphia's boundaries, there being 130 square miles. The population of the city is over two million people. The residential gas customers whom we supply are by far the greater number. There are, however, a considerable number of commercial and industrial customers. The industrial customers, of course, individually use greater volumes of gas. Philadelphia is well-known as having a high percentage of diversified industry.

Our gas is distributed under various pressures; the higher pressures, in pounds per square inch, are in those mains which carry gas to regulator stations, there being 142 of these stations throughout the city from which the gas is reduced to utilization pressure.

Philadelphia is one of the oldest cities

in the United States and, therefore, our interests are directed not alone to the distribution system composed of gas mains, but also as our gas distribution system is affected by the age of many other neighboring underground structures, such as sewers and water mains, which are also of considerable age in this "old" city of the United States.

Our problem, therefore, is to detect leaks, or to provide remedy for potential underground failures before they become emergency troubles. An important consideration in the training of our employees who do this survey work is to observe street surface conditions and evidence of other underground deterioration. We must odorize the gas as one means of detection when it escapes. We also detect its escape by the effect which gas has on vegetation. It can also be detected by instruments which produce our greatest source of work.

Briefly, this introduces the background on the subject and our purpose in detecting leaks in a preventive maintenance program.

When the program was formally initiated, we started making inspections of our underground system on a formal basis using four-man maintenance crews who operated from our central location using maintenance trucks equipped with air compressors. Our thought at that time was to have the crew making the inspection stop and make necessary repairs as indicated. We soon realized that the crews doing this work were not meeting our inspection schedules. We therefore reduced the crew size to two men who took combustible indicators and necessary tools by public transportation from our central location to the area to be inspected. This method, although satisfactory, proved costly.

Our present method is to have our two-man crews report, at starting time, directly to a tool cart in the area to be inspected and at some time during the work day the tool cart is moved to their stopping locations so that they can finish work at their normal stopping time and store their tools and equipment in the cart overnight. This enables us to spend the full day making inspections without loss of time for travel.

During the past five years we have averaged approximately 500,000 samples per year. During this period we have been able to reduce our cost from 13.3 cents per sample to 7.8 cents per sample.

The combustible indicator used by the inspection crews is an instrument which operates by drawing a sample of the atmosphere over a heated filament which forms part of an electrical circuit. The temperature of the heated filament is raised when the sample is burned on the filament causing the electrical resistance to increase in proportion to the per cent combustibles in the sample. This increase in electrical resistance is shown on a meter which is calibrated to show a 100 reading when the sample contains 6.2 per cent gas in air (the lower explosive limit). When the gas-in-air mixture exceeds 13 per cent (the upper explosive limit), the needle on the meter drops back to zero indicating what we call a 100 plus reading.

Each crew engaged in the inspections is required to take a sample from every street opening. These openings include manholes, stop boxes, vault openings, cracks in the paving or any other means of obtaining samples of atmosphere from below the street surface. They are also required to report any cave-ins or depressions in the street surface, unusual flows of water in sewers which might indicate water leaks in the vicinity. They are also required to observe vegetation along their route to detect any evidences of damage which might be due to the presence of escaping gas. All indications of combustible gas, or other conditions which might affect the safety of our distribution system, are phoned immediately to the work dispatcher at our central location. Such reports are transmitted by radio to the supervisor who is responsible for the inspection function. He immediately visits the location to check the urgency of corrective action and makes the necessary arrangements for repairs. The supervisor carries with him a supply of charcoal filters which

enables him to screen out any indications of combustible gas which might be caused by petroleum vapors. Should the condition be a cave-in or depression or water leak, the supervisor initiates necessary action to protect the gas structures from damage, and also notifies the proper city departments in order that they may make necessary repairs.

The routes of our high pressure gas mains are inspected once annually.

The center city area is inspected quarterly. The frequency of this inspection is dictated by the high degree of congestion underground in the center city area and emphasized by the fact that many of the buildings in the center city area are unoccupied at night and throughout weekends. We cannot, therefore, rely on our customers to report indications of gas leaks as promptly as they might in a residential area where the homes are normally occupied most of the time.

Business areas other than the center city area are inspected once a year.

Other special inspections include those done ahead of improvements by the city, along parade routes prior to major parades, and before and after planned changes in pressures in the distribution system.

A general area inspection consists of taking samples in every north-south street not covered by one of the preceding inspections during the current year and in the following year inspecting all the east-west streets not covered by other inspections.

This gives us an inspection of every street opening at intervals not exceeding two years and it also gives us an inspection of street openings in every major intersection at intervals not exceeding one year.

Just as a matter of interest, the number of samples taken and the repairs resulting from the inspections described above occur in these magnitudes:

	Samples (per cent)	Repairs (per cent)
High pressure	12	21
Central city	28	20
Business areas	6	9
"Other surveys"	16	17
General area	38	33

During the early part of our program we found that repairs to be made were accumulating faster than we had manpower scheduled to make these repairs. This indicated the need for a method of

scheduling which would assure a safe and an efficient accomplishment of necessary repairs. We, therefore, devised what we call a Work Initiation Schedule.

"Work Initiation" as used here is defined as the physical work required to enable a supervisor to reach a valid decision as to the urgency of the leak. This is accomplished by drilling holes through the street surface over our structures and taking additional combustible gas indicator readings and, if necessary, making actual street openings to determine conditions. In connection with this Work Initiation Schedule, we have set up certain ground rules which indicate to the supervisory employee those leaks which require immediate work and those which can be safely postponed. Should work not be required immediately, the readings are rechecked within a 48-hour period in order that we may know whether the leak is increasing in intensity or remaining stable indicating a leak of small size. Should the reading on those leaks which can be safely postponed remain stable or reduce in intensity on the 48-hour recheck, the location is rechecked on a schedule until repairs are made.

A comprehensive file is available to our work dispatcher so that he may quickly check "open" repair jobs against any customer complaint which may be received.

Detailed maps of our distribution system are used to record areas which have been inspected in order to avoid duplicating inspection work over routes which may have been inspected previously.

Colored pins, indicating urgency of reported combustible readings, are posted on a large map of the city. This enables the supervisor to plan proper size crews for repairs which may be concentrated in small areas. This map is kept up-to-date and photographed every six months as part of our permanent record.

A monthly report is prepared to keep management informed as to the status of our leak inspection program. This report indicates the number of samples taken every month, the number and type of repairs which have been completed every month, pertinent cost data, and other information of interest to our management.

Since the initiation of our inspection program, approximately 30 per cent of all leaks in our system which have been repaired, have been located as a result of the program. This indicates that our

tomers are being disturbed with ever-decreasing frequency since we are able to detect and repair leaks in our system before they become strong enough for the customer to detect an odor.

We have also been able to make these

repairs on a scheduled basis rather than on an emergency basis. The savings in dollars and cents, resulting from this ability to schedule repairs, is obvious to anyone who has borne the cost of emergency repairs.

We feel that our Leak Inspection Program, combined with a comprehensive program of main and service replacements, has resulted in a material reduction in leak complaints and in tremendous savings in repair costs.

Gas movie

(Continued from page 17)

movie star Warren Beatty (currently starred in "Splendor in the Grass") in which she invites him to dinner. Incredibly, he accepts, thus giving the picture its title, "Do Come to Dinner." Since neither girl can cook, they call on the editors of national magazine *Living for Young Homemakers* and the evening is saved. Meanwhile the young stars and the viewing audience learn something about cooking with gas.

"Do Come to Dinner" is narrated by *Living's* editor in chief, Edith Brazwell Evans, so that the nice things said about gas appliances come from a legitimate authority.

Prints of "Dinner" are being used by The Brooklyn Union Gas Company, Saskatchewan Power & Light Co., Northern Illinois, Northern States Power, Lone Star Gas, Oklahoma Natural, Public Service of New Jersey, Washington Gas Light, Consumers Power, Milwaukee Gas Light, Peoples Gas System, Atlanta Gas Light, Mystic Valley Gas, Southern Union Gas, Long Island Lighting, and Northern Indiana Public Service.

"Do Come to Dinner" is aimed squarely at school-age audiences. Although each company using the film presents it before school groups, the techniques of getting it there vary from company to company.

Brooklyn Union, for example, sent a formal "Do Come to Dinner" invitation to all directors of home economics in the company's territory. As returns came back, a company representative scheduled showings and visited each school, personally projecting the film before each home economics class and then answering questions on gas appliances. During three months of last year, the film was shown to 5,253 students, and four more prints were required to meet the schedules set for 1961.

Following each showing Brooklyn Union gives a copy of a folder with all the recipes from the film to each student. The City's Board of Education is also preparing notes for teachers to use as a guide in making "Do Come to Dinner"

an integral part of each year's home economics curriculum.

Mystic Valley Gas (Malden, Massachusetts) also sends its own projectionist with the film, sometimes includes a half-hour "dry demonstration" of salads, desserts, fancy sandwiches, and other dishes. The company finds "excellent response" from teachers and that "interest is great" among students.

Home Service Director Sarah F. Gasaway of Florida's Peoples Gas System uses "Dinner" as part of a complete program package. The film is projected by a company employee and a 20-minute lecture is given on equipment with a question period following the movie. In addition to home economics classes, the program is being presented to teenage club groups. Teachers have found it "excellent" and students approve it as both enjoyable and informative.

Other companies lend the film print to the schools, where it is either projected by the home economics teacher or by a student trained to handle projection equipment.

At Oklahoma Natural Gas Company, Home Service Supervisor Mildred Clark first previewed the film at a workshop conference, later made contacts with individual teachers and the State Vocational Department staff. The film is used to supplement appliance "Care and Use Demonstrations." In the first six weeks the film was available, there were 20 showings and a steady flow of requests from teachers.

Milwaukee Gas Light first offered the film to Home Economics teachers at the company's annual fall dinner. "I prefer live demonstrations," reports Home Service Director Elsie Alcorn, "but the film allows us to contact more students since it is shown by the teacher and does not require a Home Service girl."

Sales Manager G. D. Lynch of Northern Illinois Gas Company reports the broadest use. "Do Come to Dinner" is being shown in grammar, junior high and high schools, at the request of teachers. It was first previewed at all fall teachers' dinners, and the film loaned to schools through Home Service. Some-

times it is part of a "Care and Use" demonstration, and a teenage recipe book is passed out. Teachers have found "Dinner" a good teaching aid that gets across the gas appliance story without being too commercial. "Highly commercial films are not acceptable to the schools," Mr. Lynch says. Though school coverage keeps the film in steady use now, the company plans to show "Dinner" to some women's and Girl Scout groups.

Home Service advisors contact teachers for Consumers Power Company, sometimes project the film themselves. Miss M. A. Bettesworth, Home Service director, checked with teachers and found the film "well received," "stimulated interest in food units," "very well presented" and "was very much enjoyed by the girls."

Home economics students in the St. Paul, Minnesota, and in Fargo and Grand Forks, North Dakota, find the film entertaining, colorful, and stimulating, according to Northern States Power Company's Home Service Director Rosamond L. Carlson. The film is also used for teachers' workshops.

"Do Come to Dinner" was created without one of the prime ingredients of almost every major promotion activity—a budget. There was no budget at all for the film, the entire cost of prints and the making of the film being wrapped up in the purchase price of \$300.00 per print (\$275 each for three to five, and \$250.00 each for six or more).

Assessing the probable requirements of the industry, A. G. A. made arrangements with Bob Bailey Productions, Houston, Texas, whereby production costs would be covered by wide-spread use of prints, placing the gamble on the producer rather than on the industry.

If the "Dinner" experiment is a success, additional films of like quality may be made even when multi-thousand-dollar budgets are not available.

Prints of "Do Come to Dinner" may be obtained from Order Department, A. G. A.

Imprint of company name may be obtained for a charge of \$20, a one-time charge covering any number of prints.

Home service

(Continued from page 7)

of the "Timer-less" controls.

Max Fuller, director of field education, The Maytag Company, explained the operation of various types of washers and dryers. At the end of his talk, if the Home Service women were not yet equipped to service these appliances, they had an equivalent of a serviceman's knowledge of their (too many) mysterious workings.

Esther Foley, home service director, McFadden Publications, Inc., speaking on "Romance and Automation," concluded the Thursday afternoon session.

Today's housewife, Mrs. Foley said, now "automatically" accepts automation in her home. She also tends to want automatically a new-model appliance, or at the very least an appliance which is new on purchase.

Appliance purchase choices, Mrs. Foley said, are largely influenced by word of mouth. Because of her direct contact with housewives, this is an area where the gas company home service woman can be effective in generating sales.

Featured speaker for the conference dinner held Thursday evening was Lester T. Potter, president of A. G. A. and president, Lone Star Gas Company.

Taking the title "We Deal in Home Service," Mr. Potter took a look at the future of Home Service, and at the home of tomorrow.

"What's it like—the Home of Tomorrow?" Mr. Potter asked.

"The door opens noiselessly—on energy from a gas fuel cell, actuated by your personal, individual talisman, the size of a ten cent piece, that works without being taken out of your purse.

"The atmosphere in the house is perfect. The temperature is right. The humidity is right. The smell is right—changing from the delicate delightful odor of rose petals to lilac or even to heady gardenia, as you wish.

"Bacteria are completely and scientifically controlled for your health and comfort.

"You tune in air conditioning to the mood and impulse you want." Mr. Potter referred to use of atmospheric factors to influence emotions. "Think of being able to guarantee the proper gaiety of your guests by controlling the atmosphere in the home!"

"No dry frozen food, hastily thawed and heated, but food preserved in a truly natural state with gas refrigeration . . . then effortless automatic cooking, perfectly timed and perfectly temperatured.

"Dinner on the patio, regardless of the weather; cooled with gas if the weather is hot, warmed with healthful radiant heat if the weather is cold.

"A gas incinerator for everything to be discarded.

"Dishwasher, laundry—all with gas.

"No wires running into the house—because gas appliances generate their own electricity.

"And the illumination is high intensity—generated with a little gas turbine which is a part of the year-round conditioning system—with gas."

"Home Service today," Mr. Potter said, "includes working for this great tomorrow. We sell and service the appliances of today, so that we may achieve those of tomorrow."

After concluding his word picture of the gas home of the future, Mr. Potter surprised his audience by announcing that he would then deliver a second speech on a different, but related topic, "The Science of Joint Effort."

"There is one thing certain in this modern age," he said. "We spend a great deal more time and energy improving and perfecting individual effort than we do improving joint effort."

Yet we are "organized to the teeth" and do nearly all our work through organizations. But "mostly we are engaged in trying to do our work without using our organization."

"If I sound pessimistic or unduly critical," Mr. Potter said, "let me say I am just the opposite. The greatest potential of our future—and it is a potential so great that it seems like magic—comes out of the possibilities of improved joint effort."

"The chief executive officer alone is not going to achieve in this area," Mr. Potter concluded. "All must work at it."

The Friday morning session, presided over by Mildred Endner, Minneapolis Gas Company, was opened by LaVerna Best and Adrian Igau, Houston Natural Gas Corporation, who presented a "Cook's Tour of Europe," profusely illustrated with color slides and interspersed with comments on

gas appliances. The presentation represented an example of material designed to appeal to club audiences and other women's groups.

Mildred Clark, Oklahoma Natural Gas Co., spoke on "Servicing of Appliances in the Home." The subject was presented from the point of view of the manufacturer, the homemaker, the dealer, and the home economist.

The manufacturer's service problem was pointed up by the fact that since World War II, some 15 million appliances have been sold each year, with more than 200 million in use today. A multitude of changes, improvements and added gadgets further complicates the problem. Field observation programs and surveys are helping manufacturers check up on performance of their appliances, but customer education on use of appliances is still a challenge.

For the homemaker, perhaps the most important need is to teach her that the need for servicing is well-nigh inevitable, and should be planned and budgeted for. In this, she of course needs the help of manufacturers and dealers.

The challenge for the dealer is to restore the customer's faith in the appliance industry—a faith which has been weakened by poor service, poor selling methods, and inadequate instruction in the home. He, too, needs help from the manufacturer. One suggestion has been that servicing cost be built into the price of the appliance.

The home economist has a responsibility:

1. To educate herself on new equipment.
2. To keep up-to-date.
3. To find out enough about household equipment to understand its relationship to satisfactory family living.

The home economist also should understand the importance of servicing, its availability in the area, and the role of "preventive servicing" or instruction on appliance care. The home economist should also be able to help homemakers distinguish between advertising fancy and facts about what equipment really will do.

The rest is in the hands of the serviceman.

That serviceman spoke up at the Workshop, in the person of Chester Kneich, shop foreman, Milwaukee Gas Light Company.

Mr. Kneich stated that though Home Service representatives cannot be expected to be skilled mechanics, they can learn many tricks to alleviate the appliance servicing problem. For example, he said, "a little item like cleaning an ignition part with a paper clip can eliminate a service call."

Basically, however, the Home Service woman should attempt to teach the housewife, through careful demonstrations, how to use her appliances.

Salesmen can help by informing themselves on the mechanics of an appliance, so that they can answer questions without involving the Home Service or service departments.

Mr. Kneich discussed specific appliances, and offered the Home Service women pointers on how they could aid in reducing service calls.

Julia Hunter, Lone Star Gas Company, followed with a report on a "Promotion of the Oven-with-a-Brain." This new feature, a low-temperature oven control, was introduced under the more descriptive name "Oven-with-a-Brain" in her company's promotion. Miss Hunter said that the promotion met with some success, but that acceptance of the new appliance feature would be dependent upon continuing customer and dealer education.

Virginia Van Nostrand, home service director, Whirlpool Corporation, gave the audience news of more new appliances on the way. Among them: a combination washer-dryer-cleaner-compressor; circular, triangular, horizontal or rectangular refrigerators; portable gas appliances; gas home freezers; gas-fueled dishwashers; and a "closed-circuit television baby sitter" (not a gas appliance). All of these things, Miss Van Nostrand said, are in the Whirlpool laboratories. Whether they all will be produced depends on many factors.

Women can definitely look forward in the 60's, Miss Van Nostrand said, to: more combination appliances; some "exploded" appliances, or appliances broken down into separate parts as some built-in ranges are today; more efficient compartmentation of large appliances; more automaticity.

All of these developments will create a need for more home economists, in the fields of sales, engineering, testing, and communications.

The entire Friday afternoon session, Mrs. Elinor Wiese, Public Service

Electric & Gas Company, presiding, was devoted to a tour of appliance testing and research facilities of the A. G. A. Laboratories in Cleveland. The tour was highlighted by talks by laboratory personnel and by a gas-versus-electric cooking demonstration, in which Ronald Kohl and Jerry Seitz of Michigan Consolidated Gas Company, operating gas and electric ranges side by side, conclusively established the superiority of gas for cooking.

A major portion of the last session, on Saturday morning, was devoted to discussions of their programs by current winners of the A. G. A. Home Service Achievement Awards, and by a panel discussion on Home Service school programs.

The Achievement Award winners were Gisele Fortier, Quebec Natural Gas Corporation; Mary Lou Crump, Honolulu Gas Company; Marjorie Chandler, The Consumers' Gas Company; Mrs. Mabel Kay, South Jersey Gas Company; and Patricia Huff, The Ohio Fuel Gas Company. Mrs. Betty M. Rush, Baltimore Gas and Electric Company, read papers for both Miss Fortier and Miss Crump.

Lucille Boettcher, Laclede Gas Company, in "What Our Customers Think About Home Service," told the delegates of results of a two-day conference with local educators, and of a survey among homemakers, conducted by her department.

Among the educators, cooking demonstrations and food lectures both were popular. A suggestion approved by the conference was for a Food Fair to be held for students, under gas company sponsorship.

Among housewives, most appreciated home calls. All were interested in top-of-the-line appliances, and all felt the need for help with laundry appliances. Periodic laundry clinics were suggested.

Participants in the school program panel were Peggy Lewis, Michigan Consolidated Gas Company, moderator; Mildred Endner, Minneapolis Gas Company; Mrs. Jane Savage, Gas Service Company; Mrs. Barbara Tracy, Hartford Gas Company; Frances Saunders, Brooklyn Union Gas Company; and Mrs. Marjorie Lillenberg, The Peoples Natural Gas Company.

The session was concluded with a talk by Richard L. Leusch, general sales manager, The Peoples Natural Gas Company, on "A Sales Manager

Looks at Home Service."

Mr. Leusch, after complimenting the Home Service women on their achievements, went on to point out areas of Home Service performance which could be improved. Among his criticisms:

1. Home Service departments work too hard selling management on their services instead of the customer on gas. Management already is sold, he said.

2. Representatives need to broaden their outlook to other load builders besides cooking.

3. Departments often spend time in working up original programs when a wealth of materials already is available.

4. Representatives perhaps should make an effort to cultivate colleagues within the company, other than management.

Mr. Leusch suggested also that "sorority" barriers be let down to admit college-trained women other than home economics graduates to the Home Service ranks.

5. Departments often lose over-all perspective in a pre-occupation with details.

6. Representatives sometimes forget that they are salespeople, not teachers, and that their primary job is to sell gas and gas appliances.

Upon these notes of thought-provoking challenge for future improvement, the Workshop adjourned.

Final event was a conference luncheon, at which the featured speaker was Chester S. Stackpole, managing director of A. G. A.

Mr. Stackpole's subject was "Progress Through Research." Although other speakers on the program had spoken of new gas appliances to come, Mr. Stackpole added more news of important developments ahead. Among other research achievements, he referred to advances in gas air conditioning, in gas infra-red radiant heating, in "flameless" sealed-tube gas combustion, and in generation of power with gas through thermionics and thermoelectrics.

Far from being "way out yonder" dreams, these new developments are right around the corner, Mr. Stackpole said, predicting that many would be commercially available within the next two to five years.

Discuss big gas potential of State of Hawaii



Speakers at recent Mid-Pacific Gas Merchandising Conference in Hawaii were (l. to r.) Harold Massey, managing director, Gas Appliance Manufacturers Association; Wendell C. Davis, president, GAMA; C. S. Stackpole, managing director, A. G. A.; James C. Stopford, president, Honolulu Gas Company

Air Pollution Control Association will meet in June

THE 54TH ANNUAL meeting of the Air Pollution Control Association will be held June 11 through 15, 1961, at the Hotel Commodore in New York, N. Y. Approximately 500 of the nation's leading authorities in air pollution control are expected to attend.

According to Harry A. Belyea, president of the association, the theme of this year's meeting is "Air Pollution Is Everybody's Business." A. J. Benline, commissioner, New York City Department of Air Pollution Con-

trol, is chairman of the conference for 1961.

Eighteen technical sessions have been planned, at which scientists, researchers, physicians, industrialists, and officials of federal, state, and local governments will present about 80 papers on a wide variety of subjects.

There will be an exhibit featuring the latest instruments and most modern advances in the air pollution abatement equipment field.

Gaslight hospitality takes wing



For men only are the special "Gaslight" flights of Mohawk Airlines, which serve areas in New York and New England. Inside, DC-3's feature Victorian decor, free beer and pretzels

Automation committee planned

THE EXECUTIVE committee of the board of directors of A. G. A. at a recent meeting approved the establishment of a standing committee on automation.

This will be a committee of the A. G. A. Operating Section, with representatives from the Accounting and General Management sections. J. Stanford Setchell, secretary of the Operating Section, has announced that clearance for present members of the A. G. A. Task Group on Automation has been requested, that they may serve on this committee.

Utilities' exhibit draws 650

A SELECT group of 650 engineers, architects, and plant managers was recently shown the latest developments in natural gas engines at Omaha Civic Auditorium when 22 manufacturers displayed products and manned their booths with technical personnel to demonstrate their equipment.

The exhibition was cosponsored by Northern Natural Gas Co., Omaha, Nebr., and the gas utilities it serves in the northern plains. The purpose of the event was to familiarize specialists in the field with types of natural gas engines available and applications of their use. Equipment on display included generators, prime movers, compressors, pumps, air conditioners, and turbines. Many units were in operation.

The success of the exhibit has prompted consideration of plans to hold a similar show in 1962, perhaps in another city in the area.

AMS honors Pacific utility

PACIFIC GAS AND ELECTRIC CO., San Francisco, Calif., has been awarded the American Meteorological Society's top citation to a corporation for "perception, imagination, and leadership" in maintaining its weather service.

The award was presented to the company at the society's annual banquet in New York, N. Y. Francis J. Parsons, the utility's senior meteorologist, accepted the award on behalf of Norman R. Sutherland, president of the utility.

The company's weather service was established in 1937 to predict the demand for natural gas by its customers. The firm now employs five full-time meteorologists.

The citation, the highest award given to a corporation by the society, points out that Pacific Gas and Electric "was the first and is probably the only utility company in the U.S. that has made full use of weather facilities and information in its daily operations."

Power conference scheduled

THE 23RD ANNUAL American Power Conference will be held March 21 through 23, 1961, at the Sherman Hotel in Chicago, Ill. The conference is sponsored by the Illinois Institute of Technology in cooperation with nine national technical societies and 14 universities.

Industry news

St. Louis firm acquires Cal-Metal Pipe Corporation

COMPLETE acquisition of the stock interests of the Cal-Metal Pipe Corporation of Louisiana, Baton Rouge, La., was announced recently by the board of directors of Stupp Brothers Bridge and Iron Co., St. Louis, Mo. Stupp has been a leader in structural steel fabrication since 1856.

According to John P. Stupp, president of Cal-Metal Pipe, sole ownership of the corporation by Stupp was accomplished through the purchase of the remaining stock interests

formerly held by the Cal-Metal Corporation, of Torrence, Calif. Cal-Metal Pipe will be operated as a wholly owned subsidiary of Stupp.

Cal-Metal Pipe is a major producer of high-yield strength, light-wall steel pipe in the 6 1/8- to 42-inch range, with standard lengths to 63 1/2-feet, for natural gas gathering, transmission, and distribution and for crude petroleum and petroleum products lines.

Research on gas-fired heat exchangers is topic of Laboratories bulletin

A RECENT publication issued by the A. G. A. Laboratories presents information which will help the appliance designer produce more effective, compact and economical gas-fired heat exchangers. While the research was focused on improvement of gas furnace heat exchangers, the results will be helpful in designing other types of appliances as well.

Research Bulletin 86, *Design Factors of Gas Heating Appliances for More Effective Use of Heat Exchanger Surface*, describes heat transfer studies made with tubular-shaped and sectional-type gas-fired furnace heat exchangers. These studies were conducted

as a PAR activity under Project DA-6-HA.

The purpose of this research was to obtain information on questions concerning practical aspects of furnace design not included in A. G. A. Laboratories Research Bulletin 63, *Fundamentals of Heat Transfer in Domestic Gas Furnaces*. Bulletin 86 presents information to show how the variables studied affected the heat transfer efficiency of the exchanger. The characteristics of six different designs of sectional type heat exchangers and two four-inch diameter tubes (one stainless steel and one ceramic coated) were investigated. The effects of varying circulating air flow, flame aeration, internal flue baffling, ma-

terials of construction and jacket emissivity on heat transfer were also investigated. Coefficients of heat transfer were determined for both tubular-shaped and sectional heat exchangers under varying air flow direction and internal baffling.

Research Bulletin 86, *Design Factors of Gas Heating Appliances for More Effective Use of Heat Exchanger Surface*, was written by D. W. DeWerth and R. E. Smith of the A. G. A. Laboratories. Copies are available at \$2.50 each from the A. G. A. Laboratories, 1032 East 62nd St., Cleveland 3, Ohio, or the Association's Headquarters. Please specify Catalog Number 138/DR.

Features to prevent overdrying in gas dryers described by GAMA's Harold Massey

TWO INNOVATIONS in gas clothes dryers promise to make these appliances better than ever. The new features prevent overdrying of clothes.

According to Harold Massey, managing director of the Gas Appliance Manufacturers Association, the two new systems of drying are quite different in operation but accomplish the same purpose. Both shut off the dryer when a certain percentage of moisture has been removed from the clothes. This means that some of the moisture is retained

to make clothes soft and fibers more elastic.

One system automatically measures the drop in air temperature as it passes through the wet clothes. This determines the rate of evaporation taking place in the dryer drum. It also allows the control to accurately calculate the drying period of any given load. Heat is reduced gradually as clothes become dry, and at the critical moment the control shuts off the dryer.

The other system is electronic. A moisture-sensing element on each of three baffles at-

tached to the inside of the revolving drum measures the moisture on the clothes. When the proper degree of dryness of the clothes has been reached, the gas dryer shuts off automatically.

According to Mr. Massey, both systems will prevent the harsh, coarse texture and deep-set wrinkles that are characteristic of overdrying. He pointed out that home economists with GAMA recommend that clothes be removed from the dryer the minute it stops, as this also reduces wrinkling.

Petrolane forms subsidiary

R. J. MUNZER, president of Petrolane Gas Service, of Long Beach, Calif., recently announced the formation of a new Canadian subsidiary. The new company, which has been formed to market liquefied petroleum gas in western Canada, will operate as Petrolane Gas, Ltd.

Spencer W. Pepper, former president of Stewart Petroleum, Ltd., and Progas, Ltd., has been appointed to fill the position of general manager of the new company.

Mr. Pepper has been active in the liquefied petroleum gas marketing and processing industry in western Canada for the past 14 years and is currently executive director of the LP-Gas Association of Canada. He is also director of the National LP-Gas Association.

Petrolane Gas Service, with over 30 years of successful experience in the industry is one of the major LP-Gas marketers in the western U.S. Mr. Munzer indicated that the company plans a major program of market development in western Canada to coincide with the increasing production of LP-Gas from Alberta's expanding natural gas industry.

Brooklyn Union contracts to supply World's Fair gas



John E. Heyke, president of The Brooklyn Union Gas Co., New York, N. Y., signs contract with Robert Moses, president of the New York World's Fair 1964-1965 Corporation, to provide gas to the fair. The company will install approximately eight miles of mains at no cost to fair corporation

Highlights of cases before the Federal Power Commission

Bureau of Statistics, American Gas Association

Certificate cases

● American Louisiana Pipe Line Co. has proposed to construct facilities as needed, to attach new gas supplies. The over-all cost of these facilities would not exceed \$3 million, with the cost of any single project limited to \$500,000.

● Arkansas Louisiana Gas Co. has been authorized to construct natural gas facilities having a total cost not to exceed \$6.9 million. Each of these projects to attach new gas supplies, when available, is limited to a cost of \$500,000.

● Colorado Interstate Gas Co. has filed an application to construct facilities to attach new natural gas supplies. One of the projects would not exceed a cost of \$400,000, and two other projects would be limited to a cost of \$200,000 each, for an over-all cost not greater than \$800,000.

● Columbia Gulf Transmission Co. has received approval of its budget-type application to construct facilities, as needed, to attach new natural gas supplies. The cost of single projects is limited in cost to \$500,000, and the cost of all projects will not exceed \$1.5 million.

● El Paso Natural Gas Co. has been temporarily authorized to construct and operate a 3,400-horsepower addition to its Euclid field compressor station. The additional compressor capacity would cost an estimated \$1.25 million and would be used to take 28 million cubic feet of residue gas daily that is now being flared from Phillips Petroleum Co. In another case, the company's budget-type application to attach newly acquired gas reserves was approved. The total cost of these facilities will not exceed \$5 million, and single projects will not exceed a cost of \$500,000.

● Natural Gas Pipeline Company of America has filed an application seeking authorization for the construction of natural gas facilities at an estimated cost of more than \$28 million. The proposed facilities include a total of 258 miles of 30-inch loop lines and two additional compressor engines, with a combined capacity of 5,800 horsepower. When completed, the safe capacity of the system would be increased by an additional 60 million cubic feet of natural gas per day and would meet the increased demands of existing customers during the 1961-1962 heating season. In another case, the company has filed a budget-type application to allow the construction of natural gas facilities when necessary to secure new gas supplies. The over-all cost of all projects is budgeted at \$3.5 million, with single projects limited in cost to \$500,000.

● Natural Gas Storage Company of Illinois has been authorized to construct facilities to permit larger natural gas withdraw-

als from the Herscher storage field. The authorization includes supercharging three existing 2,000-horsepower compressor engines to 2,800 horsepower, construction of a gathering system to tap new wells, and the drilling of seven new injection-withdrawal wells—all at an estimated cost of \$1.9 million. The maximum daily withdrawal capacity will be raised from 650 to 725 million cubic feet of natural gas.

● Tennessee Gas Transmission Co. has been authorized to construct from time to time during 1961 facilities having a total cost not to exceed \$5 million, with the cost of any single project not to exceed \$500,000. These facilities will be used to secure natural gas supplies to be purchased in the general area of company's pipeline system.

● Texas Eastern Transmission Corp. has filed an application to construct facilities that would increase its pipeline system capacity by 225 million cubic feet of natural gas per day. The over-all cost of construction is estimated to be \$84.5 million and includes about 460 miles of various diameter pipelines and the addition of 96,000 horsepower compressor capacity. Approximately 330 miles of line and 51,000 horsepower in compressor capacity would be added in the current year, with the balance to be constructed during 1962. The proposed expansion would meet the increased demands of existing customers. In another case, a budget-type application of the company has been approved. The overall cost of facilities required to add new gas supplies to the system will not exceed a total of \$4 million, and each project will be limited in cost to \$500,000.

● Transcontinental Gas Pipe Line Corp. has proposed to construct about 15 miles of 36-inch main line loop, add weights to existing loop segments that will be flooded, and relocate a water pumping station at an estimated cost of \$2.9 million. The loop line would bypass the reservoir of a hydroelectric project now being constructed by Duke Power Co. on the Catawba River. About 5.5 miles of existing transmission line would lie in water up to a depth of 60 feet at some points. The power company would assume nearly \$1.4 million of the total cost.

● Transwestern Pipeline Co. has filed a budget-type application to facilitate acquisition of new gas reserves when available. The total cost of all facilities to be constructed would not exceed \$3 million, with the cost of single projects limited to a cost of \$500,000.

Rate cases

● Eastern Shore Natural Gas Co. has applied for a \$54,200 or 11.1 per cent annual wholesale natural gas rate increase that would affect three utility customers in

Maryland and Delaware. The sole purpose of the application is to recover the increased cost of purchased gas charged by Transcontinental Gas Pipe Line Co., its supplier. The proposed increase would reduce an annual deficit from \$116,000 to about \$62,000. The company has completed only one full year of operation, and, since the customer load has not yet reached normal proportions, it is not at this time attempting to raise rates high enough to absorb the entire deficit.

● Texas Eastern Transmission Corp., in a settlement approved by the commission, has agreed to refund, with interest, a total of \$27,419,575. The settlement covers an annual wholesale rate increase of about \$11,258,000 in effect since November 10, 1957, and an additional \$16,548,850 increase in effect since December 1, 1959. In both cases, the company has requested a 6.75 per cent rate of return. A return of 6 per cent was allowed in the earlier rate case and of 6.25 per cent in the later case. Still left for judicial determination was the normalized tax treatment accorded liberalized depreciation.

● United Gas Pipe Line Co. has filed a wholesale natural gas rate increase that had been rejected previously due to overstatement of purchased gas costs. The new filing proposes a \$4,640,000 or 3.7 per cent annual increase in lieu of a \$4,860,000 or 3.9 per cent annual increase. The first filing included a supplier rate increase that had been disallowed. The latest increase proposed would become effective February 1, 1961, and would affect approximately 30 utility customers in Arkansas, Florida, Louisiana, Mississippi, and Texas.

SUMMARY OF INDEPENDENT GAS PRODUCTION RATE FILINGS—DECEMBER, 1960

	Number	Annual Amount
Tax rate increases allowed without suspension	1	\$ 1,736
Other rate increases allowed without suspension	131	1,370,444
Rate increases suspended	69	1,523,101
Total rate increases	201	2,893,547
Tax rate decreases allowed without suspension	—	—
Other rate decreases allowed without suspension	1	2,315
Total rate decreases	1	2,315
Total rate filings (all types)	593	—
Total rate filings acted on from June 7, 1954, to December 31, 1960	51,596	—
Rate increases disposed of after suspension (during month)	16	406,937
Amount allowed	—	332,460
Amount disallowed	—	—
Amount withdrawn	—	74,339
Rate increases suspended and pending at end of month	3,605	\$170,544,000

SUMMARY OF PIPELINE COMPANY RATE FILINGS—DECEMBER, 1960

	Number	Annual Amount
Increases under suspension at beginning of month	113	\$421,812,300
Increases suspended during month	1	4,738,600
Increases disposed of after suspension	4	7,780,400
Amount allowed	—	2,739,400
Amount disallowed	—	5,041,000
Amount withdrawn	—	—

Increases allowed without suspension — 3,600 Increases suspended and pending at end of month 110 \$418,770,500

SUMMARY OF PIPELINE COMPANY CERTIFICATE FILINGS AND ACTIONS—DECEMBER, 1960 (CONSTRUCTION AND OPERATION ONLY)

	Number of Applications	Miles of Pipeline	Compressor Horsepower	Estimated Cost
Pending at beginning of month*	198	6,787	588,280	\$860,897,526
Filed during month	15	170	—	27,920,221
Issued during month	23	1,150	123,980	189,387,690
Otherwise disposed of during month	4	24	—	782,500
Pending at end of month	186	5,783	464,300	698,647,557

* Adjusted to include amendments and supplements to applications and modifications of certificates

President Potter to speak at 56th annual meeting of Mid-West Gas Association

THE 56TH ANNUAL convention of the Mid-West Gas Association will be held March 27 and 28, 1961, in Omaha, Nebr., at the Sheraton-Fontenelle Hotel. Thirteen speakers will be featured on the program.

Addressing the convention on Monday morning will be D. W. Weir, executive vice president of Arkansas Louisiana Gas Company. Shirley Pemberton, home economist with Robertshaw-Fulton Controls Company, will speak at the ladies' luncheon, while Lester Potter, president of A. G. A. and of Lone Star Gas Company, will talk to the men.

Canadians step up dryer sales

UNION GAS Company of Canada Ltd., Chatham, Ontario, Canada, has announced the successful completion of a six-weeks-long gas dryer sales campaign in which the utility recorded a total of 1,086 gas dryer sales, free of trade-ins.

The campaign was based on the popular advertising technique that utilizes coupons. The prospective purchaser of a gas dryer was offered a coupon worth \$10 toward its price. The technique drew the support of 11 out of 13 Canadian gas dryer manufacturers contacted and of 137 gas appliance dealers contacted.

The initial mailing to dealers consisted of a double-fold pamphlet describing the campaign and containing suggestions for utilizing free materials in a window display; a proof of the newspaper advertisement and the advertising schedule; and a reply card. Cooperating manufacturers added impetus by agreeing to supply additional display materials.

Union Gas agreed to pay each dealer \$10 for every gas dryer sale made within the dates of the campaign—October 15 through November 30, 1960. Further, cooperating manufacturers agreed to pay dealers a like amount for each sale of their merchandise.

Thus, the dealers were guaranteed \$20 on each sale of a gas dryer and could use the money as they chose. The majority employed it to further reduce consumer cost. All purchasers, of course, received value for their \$10 coupons.

Dealer sales were recorded on a return sales card and were verified by utility employees. Payment was then sent from both utility and manufacturer. Colorful weekly sales progress bulletins kept participants informed, and the final sales report was mailed out several days after the conclusion of the campaign.

That afternoon, the speakers will be Bob Fink, director of air conditioning for The Gas Service Company; W. A. Schutte, manager of Hausgas, Inc., and second vice president of the National LP-Gas Council; and Francis X. Welch, editor of *Public Utilities Fortnightly*.

Leading off the Tuesday morning session will be George Odiorne, director of the Bureau of Industrial Relations of the University of Michigan. Following Dr. Odiorne will be Sam Schneider, manager of Central division radio sales, Crosley Broadcasting Post.

Corporation, and M. A. Elliott, director of the Institute of Gas Technology.

Tuesday's combined luncheon will hear Jessie Cartwright, home service director for the Norge Sales Corporation. That afternoon the speakers will be Gerald Mullin, president of Minneapolis Gas Company; Don Decker, director of the National Home Builders Association; and William Hazlett Upson, noted writer and lecturer, and author of the "Alexander Botts" stories of a salesman that are periodically featured in *The Saturday Evening Post*.

A. G. A. Committee sponsors noise abatement course

THE A. G. A. Pipeline Research Committee will sponsor a Noise Abatement Course on May 2, 3, and 4, 1961, at Southwest Research Institute in San Antonio, Texas.

The purpose of this course is to make available to the gas industry the results of an intensive four-year program of research in noise abatement at gas pipeline installations. This program, which includes both field and laboratory noise studies, will provide specific information pertaining to the legal aspects of

noise, noise abatement at gas pipeline installations including compressor stations, metering stations and blowoffs, as well as the theoretical treatment of the physics of noise.

The registration fee will be \$60 per student and will include lunches at the institute and copies of published reports on noise abatement.

Further information on the course is available from the Research Department, A. G. A., 420 Lexington Ave., New York 17, N. Y.

Utility accommodates knothole peepers



Sidewalk superintendents will have a choice location for viewing construction of the new 32-story building begun this month by Michigan Consolidated Gas Co., Detroit, Mich. A special observation room and balcony has been built atop the contractors' and architects' field office building at the site

Personal and otherwise

Waddell fills new A. G. A. communications post; Reardon to manage press relations

LORNE S. WADDELL has been named to the newly created post of manager of communications of A. G. A. Edward J. Reardon, formerly city editor of *The Evening News*, Perth Amboy, N. J., has succeeded him as manager of press relations.

Mr. Waddell came to A. G. A. in 1958 from Tom Compere and Associates, a New

Leonard appointed by Laclede

FRANCIS R. LEONARD has been named assistant vice president for industrial relations at Laclede Gas Co., St. Louis, Mo., by action of the company's directors.

Mr. Leonard, with Laclede since 1955, has been manager of industrial relations since 1959. A graduate of Colby College, he began his business career in 1941 in the sales department of The Brooklyn Union Gas Company. He joined Laclede as assistant director of industrial relations.

Shell's Hugill named to post

E A. HUGILL, JR., assistant to the president of Shell Oil Co., New York, N. Y., has been appointed a director of the International Road Federation, an organization supporting world-wide highway improvement. The federation, which includes leading companies in the petroleum, automobile, construction equipment, and tire industries, was formed in the U. S. in 1948. Affiliated organizations are active in Latin America, Europe, Africa, and Asia.

Central Electric and Gas appoints

L. J. Berkheimer



L. J. Berkheimer

LJ. BERKHEIMER has been promoted to the position of division manager of the Nebraska division of Central Electric and Gas Company, with headquarters at Columbus, Nebr. He has filled the post held by the late Dwight T. Edwards.

As division manager he will be responsible for all phases of Central's natural gas operations in 54 eastern Nebraska communities. Since 1957 he has

York public relations firm. Previously, he was assistant public relations manager for Fairchild Engine and Aircraft Corp., Hagerstown, Md. He was also director of public information at Syracuse University, which is his alma mater, and was a member of the editorial staff of the *Long Branch* (N. J.) *Daily Record*.

held the position of executive assistant to the general manager in the firm's general office in Lincoln, Nebr.

After graduation in 1950 from the University of Nebraska, with a bachelor's degree in mechanical engineering, Mr. Berkheimer joined Central as a heating engineer. He also served as a senior heating engineer, prior to his promotion as district engineer and transfer to the firm's Northern district office in 1951. He was transferred back to Lincoln in 1953 to serve as a division engineer and was subsequently promoted successively to the positions of commercial manager, division industrial and heating engineer, and chief rate engineer.

Mr. Reardon has worked on *The Wall Street Journal*, *The Newark (N. J.) Evening News*, and *The Daily Home News*, of New Brunswick, N. J. A graduate of the School of Journalism of the University of Missouri, he is secretary of the New Jersey Chapter of Sigma Delta Chi, a professional journalism society.

Harry I. Miller retires

HARRY I. MILLER, vice president-division operations, Wisconsin Public Service Corp., Milwaukee, Wis., has retired.

He was graduated from the University of Wisconsin in 1921, with a bachelor of science degree in electrical engineering. Following graduation, he spent two years at the university as an instructor in mathematics and electrical engineering.

He joined Public Service in 1923 as an engineer. In 1929 he became manager of the research and development department at Oshkosh, Wis. His career was interrupted several times by special assignments with the U. S. government between 1941 and 1954 both in this country and in other parts of the world.

Robertshaw promotes Heller

RAYMOND H. HELLER has been elected an assistant vice president of Robertshaw-Fulton Controls Co., Richmond, Va., by the board of directors. Mr. Heller is general manager of the firm's Aeronautical and Instrument division, Anaheim, Calif.

He joined Robertshaw-Fulton in 1952 as a process engineer at the Anaheim division and served as project engineer, field engineer, chief field engineer, and director of field engineering and sales before assuming his most recent duties in 1960.

A native of Hooper, Nebr., Mr. Heller holds a bachelor's degree in engineering from the University of Nebraska.

Shaver succeeds Baldridge in Columbia Gas System



K. Shaver

DIRECTORS of The Columbia Gas System, New York, N. Y., have elected Karl Shaver to the office of secretary. Former assistant secretary, he has succeeded Milton C. Baldridge, who has retired.

Mr. Shaver has been with the system since 1953, coming to the company from the Securities and Exchange Commission where he had been for 18 years

in the division of public utilities. From 1931 to 1935 he was employed by the Scarr Engineering Company and the New York Edison Company (now Consolidated Edison Company of New York).

He received a bachelor's degree in electrical engineering at Kansas State University and in 1936 received a bachelor-of-laws degree at George Washington University in Washington, D. C.

His first employment with Columbia was in the treasury department. In 1956 he was named assistant secretary of both The Columbia Gas System and of Columbia Gas System Service Corporation.

Lee succeeds Crawford at Atlanta Gas Light; Motz elected as vice president

WILLIAM L. LEE, former executive vice president of Atlanta Gas Light Co., Atlanta, Ga., has been elected president by the company's board of directors. He has succeeded D. A. Crawford who has resigned.

Elected to the board as a new member was Robert P. Sharpe, Jr., president of the Spalding Knitting Mills and the American Throwing Company, two of Griffin's largest industries.

Mr. Lee joined the company in the sales

department in 1933. He served as industrial engineer, division engineer, and manager of the firm's south-Georgia division before his election as a vice president in 1948. He was elected a director in January, 1960, and executive vice president the following month.

He attended Emory University and Georgia Institute of Technology and became a registered professional engineer in 1941.

The board also has named J. H. Motz as a vice president of the utility. Mr. Motz, who

will continue as secretary, joined Atlanta Gas Light as an executive assistant in 1930. He was made corporate secretary in 1941 and was given responsibilities including personnel, safety, and insurance.

The directors re-elected, besides Mr. Lee, are C. R. Lawrence, vice president; A. L. Hathaway, treasurer; and W. H. Ryan, assistant secretary and assistant treasurer. Mr. Lee was also named to the board's executive committee.

Directors of San Diego Gas and Electric elect Noble to newly created post

AT A RECENT monthly meeting, the board of directors of San Diego Gas and Electric Co., San Diego, Calif., elected the following officers:

H. A. Noble, senior vice president; C. P. de Jonge, vice president, distribution; J. F. Sinnott, vice president, engineering; and W. A. Zitzau, vice president, production and transmission.

Mr. Noble had been vice president, operation, which office has been eliminated. He will, in the newly established post of senior vice president, assist the president and executive vice president in the general operation of the company. Mr. Noble has been with the utility for 36 years. He had served as vice president, operation, since 1951.

Mr. De Jonge, Mr. Sinnott, and Mr. Zitzau

have been serving respectively as manager, distribution; manager, engineering; and manager, production and transmission since 1960 when they were named to those newly created posts. They will continue to direct the activities of their functional assignments. Mr. De Jonge has been with the company for 30 years, Mr. Sinnott for 31 years, and Mr. Zitzau for 19 years.

Reinhold retires from Connecticut Light and Power

FANK M. REINHOLD, vice president of purchasing for The Connecticut Light and Power Co., Berlin, Conn., will be succeeded upon his retirement this month by Herbert W. Sears.

Mr. Reinhold's career with the utility began in 1923 when he joined the company's engineering department. He became chief clerk three years later, and in 1927 he was named general storekeeper. He was appointed

assistant purchasing agent in 1933 and was advanced to purchasing agent in 1946. He became vice president in 1955.

Mr. Sears received his bachelor-of-science degree in business administration from Boston University in 1939. He joined the utility in 1941 in the stores department and in 1946 was assigned to the purchasing department. Two years later he was made purchasing assistant.

Overton to head new department at Stone and Webster

STONE AND WEBSTER, Inc., has announced the formation of a centralized public relations and advertising department to be headed by Corwin F. Overton as the company's first public relations and advertising director.

He will plan and supervise public relations and advertising activities for all of the company's subsidiaries. These include Stone and Webster Engineering Corp., Stone and Webster Securities Corp., Stone and Webster Service Corp., Stone and Webster Canada Ltd., Industrial Gas Supply Corporation of Houston, San Salvador Development Co.

Mr. Overton joined Stone and Webster in 1955 as a public relations consultant after serving as advertising manager of Northwestern Public Service Company. Earlier, he was secretary of the South Dakota Natural Resources Commission, an industrial development agency, and the South Dakota governor's representative on the Missouri River Basin Inter-Agency Committee. He also served on the staff of the *Los Angeles Times*.

He is a journalism graduate of South Dakota State College and attended the graduate school of business administration at the University of California at Los Angeles.

Cassidy named director of new group at Ebasco Services

JOHN D. CASSIDY has been named director of manufacturing and operations services for the management consulting division of Ebasco Services, New York, N. Y.

The newly formed manufacturing and operations services group brings together and expands the division's consulting activities

in industrial engineering, materials handling, automation, and industrial cost reduction.

Mr. Cassidy was previously a general management consultant on Ebasco's staff in New York. He is also vice president and general manager of V-E-K Associates, an exposition-planning firm affiliated with Ebasco.

Compressed Gas Association elects Horner president

AT THE 48TH annual meeting of the Compressed Gas Association, held recently at the Waldorf-Astoria Hotel, New York, N. Y., the following were elected to office:

D. M. Horner, president of Harrisburg Steel Co., and Taylor-Wharton Co.; president;

R. S. Passmore, manager, ammonia division, Armour Industrial Chemical Co., first vice president; and R. L. Swope, vice president, Southern Oxygen Co., second vice president. Franklin R. Fetherston was re-elected secretary-treasurer of the association.

Bayer elected at Holcroft

EDWARD C. BAYER has been appointed as technical director of Holcroft and Co., Detroit, Mich. The firm manufactures production heat treating equipment.

Mr. Bayer, who joined the company as a metallurgist in 1946, earned his bachelor's degree in chemical engineering at the University of Detroit.

A member of the American Society for Metals, he is also a member of A. G. A. and serves on the A. G. A. Industrial Gas Practices Committee.

McWilliam joins Commonwealth

ALEXANDER C. MCWILLIAM has joined the industrial relations department of Commonwealth Services as a consultant on personnel and other industrial relations matters.

Mr. McWilliam was formerly with the Hertz Corporation. Before that he was director of personnel for Scholastic Magazines and Air Transport Equipment Company. He holds the degree of bachelor of business administration from Columbia University. He is of the class of 1946.

Heath is staff coordinator



DUDLEY E. HEATH has been named staff coordinator of Arkla Air Conditioning Corp., Evansville, Ind.

He has succeeded L. E. Walbridge, former vice president and manager of manufacturing. Mr. Heath will coordinate all Arkla activities related to manufacturing, production, quality control, purchasing,

ing, and employee relations.

He heads a company team that includes Mahlon Lowell, manufacturing; Fred Creech, production control; Lou Fisher, quality control; Roy Sheets, purchasing; and Henry Childs, employee relations.

Feltenstein is vice president

HARRY D. FELTENSTEIN, JR., has been appointed as vice president of Central Illinois Light Co., Peoria, Ill.

Mr. Feltenstein joined the company in 1943 as a groundman in the Springfield electric department. He was transferred to the gas heating department in 1946. In 1948 he moved to Peoria as sales engineer and four years later became the Pekin service sales supervisor.

In 1954 he was appointed to take charge of the firm's area development activities and, following two other promotions, he became service sales director in 1956.

Miss McQueen goes to Indonesia

JESSIE MCQUEEN, former Home Service counselor at A. G. A., has joined the contract team in Indonesia of the University of Kentucky. Miss McQueen's role on the team is that of a full-time home economist. She is the team's first such full-time worker.

Grove names Williamson

GROVE VALVE and Regulator Co., Oak-land, Calif., has announced that Kenneth F. Williamson has been named vice president and product manager-valves. Grove is a subsidiary of Walworth Company.

Mr. Williamson was formerly assistant sales manager for the company. He has been with Grove for two years. Before joining the company he was affiliated with another firm as sales coordinator.

He is a graduate of the Agricultural and Mechanical College of Texas.

Airtemp division of Chrysler Corporation names Kawsky as district manager

ARNOLD KAWSKY has been named as a room air conditioner district manager by the Airtemp division of Chrysler Corp., Dayton, Ohio. His territory will include the entire state of Ohio and parts of Kentucky,

Indiana, Michigan, New York, Pennsylvania, and West Virginia.

A graduate in business administration of the University of Dayton, he was district manager for Chrysler's Washington, D. C.,

territory for two years. He was with Gibson Refrigerator Company for two years and then established his own air conditioning and heating dealership in Dayton from 1958 through 1960.

Names in the news—a roundup of promotions and appointments

UTILITY

Michigan Consolidated Gas Co. has announced four new appointments. **Harold R. Lauer** has become manager of the company's new business division and, in his new post, will head the utility's space heating, multiple housing, architect, and builder contracts in connection with residential uses of gas. He joined the firm in 1946 in the production department and was transferred to the sales department in 1953. **L. Curtis Munn** has been named superintendent of the gas distribution department. He has succeeded **George M. Arnold**, who recently retired. **O. Bernard Weideman** has been named assistant superintendent of the gas distribution department. **Charles R. Montgomery** has been appointed as assistant controller. He will be transferred from American Louisiana Pipe Line Co., an affiliate of the utility.

Bob Lee Corbell has been appointed as residential air conditioning sales supervisor for the Houston Natural Gas System. He is the former residential heating and air conditioning representative in Houston Natural's Houston-Pasadena service area. He joined the company following his graduation in 1958 from the University of Texas.

Laura Piegras has joined Peoples Natural Gas Co., a division of Northern Natural Gas Co., as home service director in the office in Omaha, Nebr. Mrs. Piegras joined Peoples after 11 years of service with Central Electric and Gas Co. as home service director. Previously she had been with Metropolitan Utilities District of Omaha for eight years. She is a graduate of the University of Omaha.

Charles R. Woods has joined Honolulu Gas Co. as staff engineer. He had for the past eight years headed his own building and general contracting firm in Seattle, Wash. Before that he was assistant to the vice president in charge of commercial operations for the Puget Sound Power and Light Co. He is a graduate of the University of Washington.

The addition of **Charlene Gardner** to the sales and advertising staff of Southwest Gas Corp. has been announced. Miss Gardner had served with Southern California Gas Co. and with Southern Counties Gas Co. for five years. More recently she was secretary to the executive director of the Gold Cup Races in Las Vegas, Nev. She will coordinate advertising and sales promotion for Southwest at their executive offices in Las Vegas.

J. C. Dezelle has been appointed a vice president of the Texas distribution division of United Gas Corp. Assistant operating manager of that division since 1957, he recently succeeded to the duties formerly directed by **James A. Wilson**, who has been transferred to Shreveport and appointed

vice president in charge of all the firm's distribution operations including Texas, Louisiana, and Mississippi. Mr. Dezelle has been connected with United Gas for more than 29 years. He joined the company as an accounting clerk.

Harold E. Rider was recently elected a director of The Connecticut Light and Power Co. at a meeting of the board of directors. A graduate of Dartmouth College, he has had a long career in the field of banking. He also is a member of the executive committee and of the board of trustees of the Connecticut Public Expenditure Council.

MANUFACTURER

Donnell H. Fox, since 1958 a member of the national service department of Robertshaw-Fulton Controls Co., has joined the staff of the company's headquarters in Richmond, Va., as an assistant to **Charles E. Smith**, director of national service. Mr. Fox was first employed with Robertshaw-Fulton in 1944 at the company's Thermostat division. He returned to that division on completion of his service in the U. S. Army and served as a quality control inspector when he was shifted in 1958 to the national service department as a field service representative. In that capacity he conducted service schools across the country for appliance controls manufactured by the company.

J. M. Sterling has been appointed to the new position of factory manager for the electronic data-processing division of Minneapolis-Honeywell Regulator Co. Former personnel director for the division, he will be responsible for the division's production operations at Brighton and Lowell, Mass. He has been with Honeywell since 1950, when he joined the firm's Brown Instruments division following graduation from the University of Pennsylvania. In 1955 he was transferred to the EDP division, which was then known as Datamatic Corp.

In a move to augment and strengthen its sales program, Springfield Boiler Co., a subsidiary of Cleaver-Brooks Co., has named **Hugh G. Dean** sales manager of the subsidiary. Formerly a district sales manager for Foster-Wheeler Corp., he has more than 10 years' experience in the sales and engineering of heat exchange equipment. He is a graduate of Cornell University and holder of a bachelor-of-science degree in chemical engineering.

The appointment of **C. A. Spagnuolo** and **William E. Schleef** as builder sales managers has been announced by the contract sales division of Whirlpool Corp. Both men will be responsible for sales of RCA-Whirlpool home appliances through Whirlpool distributors and to construction departments of home, hotel, and motel builders. Mr. Spagnuolo joined Whirlpool

five years ago, at the time of the merger of Radio Corporation of America with Whirlpool and Seeger Refrigerator Co. He had been with the Estate Range division of RCA. Mr. Schleef has come to the firm from Interstate Supply Co., an RCA-Whirlpool distributor in St. Louis, Mo., where he had been contract sales manager for the past four years.

Edna Poyner has been appointed as director of the home service department of the Norge division of Borg-Warner Corp. She will direct testing and use of Norge home appliances and other home service functions. She has succeeded **Jessie Cartwright**, who has been named home economics director of Norge laundry and cleaning appliances. Miss Poyner had been assistant home service director since 1960 and before that had held the position of regional home economist covering 10 Western states. She is a graduate of Colorado State University.

Reynolds Gas Regulator Co. has named **Sylvester Koehnen** as purchasing agent and office manager. Mr. Koehnen has a background of more than 30 years in the field of accounting. He was previously with Arkla Air Conditioning Corp., which like Reynolds, is a wholly owned subsidiary of Arkansas Louisiana Gas Co. He was with Servel, Inc., for 29 years.

Gilbert Nelligan has been appointed to the newly created post of sales manager of package generator department with Iron Fireman Manufacturing Co. That company has recently expanded its operations in the field of package generators. Mr. Nelligan has been associated with the heating industry since 1931, when he became job superintendent for Rogan Plumbing Co. In announcing the expansion, Iron Fireman noted it will continue its manufacture of gas, oil, and gas-oil burners.

Richard E. Tupper has been named to the newly created post of sales manager of the Maytag New York Co., a wholly owned subsidiary of The Maytag Co. He joined Maytag in 1950 in the marketing division and had served in sales analysis and sales promotion and as a regional manager before being named to his recent previous post that of freezer sales coordinator, in 1958.

James M. Hughes has been appointed as sales manager, regular products, of the Dresser Manufacturing division of Dresser Industries. He will direct the promotion and sale of all Dresser pipe joining and pipe repair products. A graduate in business administration from Michigan State University, he also studied sales management and marketing at the graduate school of Rutgers University. He is a man of extensive experience in the rubber industry and has for the past two years been general sales manager of Reactive Metals, Inc.

OTHER

Texas Gas Transmission Corp. has announced the appointment of Wayne Sweet as assistant superintendent of the measurement department of the company's home office. Formerly assistant manager of the Louisiana division, he joined the company in 1943 as a meter technician. He was later named assistant superintendent of the measurement department in Memphis and division superintendent. His successor at the Louisiana division is L. T. Sloan. Mr. Sloan joined Texas Gas in 1937 as a welder in the pipeline department at Clarksdale, Miss., and later served as district pipeline superintendent at Greenville, Miss., and assistant division superintendent in the company's

pipeline department in Owensboro, Ky.

C. D. Richardson has been named superintendent of the newly created Pennsylvania storage department of Transcontinental Gas Pipe Line Corp. He was formerly assistant superintendent of the pipeline department. The new department will establish headquarters in Williamsport, Pa., and will be staffed by Robert M. Detamore, John S. Noel, W. L. Summers, Jr., and Fred Lydic.

Joe B. Byrd has been named as a sales representative for the office in Houston, Texas, of Cal-Metal Pipe Corporation of Louisiana. He joined Cal-Metal this year, bringing with him sales experience with two major supply companies in the area of Houston. He attended Texas Technological College and the University of Texas.

OBITUARY

C. C. Jones

retired executive of the Philadelphia Gas Works and The United Gas Improvement Co., Philadelphia, Pa., died recently at his home in Philadelphia.

He began his career in 1911 as a clerk with PGW and progressed to hold many executive positions during 45 years of service. He was at one time assistant engineer with Peoples Gas Light Company, of Manchester, N. H., and later was assistant engineer, gas department, Northern Indiana Gas and Electric Company. He returned to PGW in 1926 as assistant to the engineer of distribution and retired in 1956 as superintendent of PGW's distribution engineering division.

A registered professional engineer, he was a graduate of Drexel Institute of Technology.

Surviving Mr. Jones are his widow and a son.

R. M. Riggins

president of Texas Gas Corp., Houston, Texas, since 1950 died January 9, 1961. He was 66.

Mr. Riggins studied law and accounting by correspondence through the LaSalle Extension University and the Alexander Hamilton Institute. At the age of 17, he became the chief clerk in the Missouri-Kansas-Texas Lines office in Oklahoma City, Okla.

From 1922 to 1930 he served in executive positions with the Independent Oil and Gas Company, Independent Pipe Line Company, Independent Natural Gas Company, and the Manhattan Oil Company. These firms consolidated with the Phillips Petroleum Company in 1930, and for the next eight years, he was controller and a member of the operating committee of Phillips.

From 1938 to 1945 he was treasurer and a member of the operating committee of Phillips and served also as treasurer of the Phillips Pipe Line Company, Standish Pipe Line Company, and Western Radio Telegraph

Company. In 1944 he was named vice president of the Phillips Venezuelan and Phillips Colombian companies.

S. A. Bialecki

who was 82 and the retired credit manager for Milwaukee Gas Light Co., Milwaukee, Wis., died January 9, 1961, of a heart attack.

He joined the gas company about 1903 and was appointed credit manager in 1912. He retired in 1948. He was the organizer of the company's credit union.

A native of Poland, he came to the U.S. about the turn of the century. In World War I he served in the intelligence division of the war department in what was called the American Loyalty Legion.

Mr. Bialecki is survived by his widow, three daughters, and a son.

P. I. Holman

died suddenly on January 23, 1961. He was staff specialist, gas appliances, Eastern Research Center, Robertshaw-Fulton Controls Co., King of Prussia, Pa.

He joined the center in 1958 after a long period of service with Geo. D. Roper Corp., Rockford, Ill., where his last assignment was as chief research engineer. He was a native of Sweden and studied at the Stockholm Institute of Technology before coming to the U.S. He held over 35 patents in the gas range field.

He is survived by his widow, four children, and seven grandchildren.

W. Leone

who was 52 and assistant director of the safety services bureau of Consolidated Edison Company of New York, New York, N. Y., died February 5, 1961.

Mr. Leone joined Brooklyn Edison in 1926 as a record tracer. He attended evening classes at the Polytechnic Institute of Brooklyn, where he received a degree in electrical engineering in 1935.

Upon his return to the company after service in World War II, he was chosen for the management development program and was assigned to production, sales, and system engineering.

He is survived by his widow, a daughter, his father, and two brothers.



1961

APRIL

4-5 •Gas Compressor Institute, National Guard Armory, Liberal, Kans.
4-6 •A. G. A. Research and Utilization Conference, Sheraton-Cleveland Hotel, Cleveland, Ohio

6 •Pennsylvania Gas Association Fourth Annual One-day Distribution Conference, Tally Ho Inn and Hotel, Valley Forge, Pa.

7 •Maryland-District of Columbia Utilities Association, Spring Conference, Lord Baltimore Hotel, Baltimore, Md.

11-13 •A. G. A. Sales Conference on Industrial and Commercial Gas, Prince Edward, Windsor, Ontario, Canada

13-15 •Gas Appliance Manufacturers Association, Annual Meeting, Boca Raton Hotel and Club, Boca Raton, Fla.

16-19 •A. G. A.-Edison Electric Institute National Conference of Electric and Gas Utility Accountants, The Chase-Park Plaza Hotels, St. Louis, Mo.

18-20 •Southwestern Gas Measurement Short Course, University of Oklahoma, North Campus, Norman, Okla.

20-21 •Indiana Gas Association, Annual Convention, French Lick, Ind.

21 •A. G. A. Mid-Eastern Public Relations Workshop, Hilton Hotel, Pittsburgh, Pa.

24-26 •Southern Gas Association, Annual Convention, New Orleans, La.

30-May 2 •Independent Petroleum Association of America, Midyear Meeting, Roosevelt Hotel, New Orleans, La.

30-May 3 •Air Conditioning and Refrigeration Institute, The Homestead, Hot Springs, Va.

•Liquefied Petroleum Gas Association, Annual Convention and Trade Show, Conrad Hilton Hotel, Chicago, Ill.

MAY

8-12 •A. G. A. Operating Section, Distribution and Production Conference, Sheraton Hotel, Philadelphia, Pa.

15-17 •A. G. A. Midwest Regional Gas Sales Conference, Edgewater Beach Hotel, Chicago, Ill.

17-19 •Pennsylvania Gas Association, Annual Meeting, Pocono Manor Inn, Pocono Manor, Pa.

18-19 •A. G. A. Financial Forum, Valley Ho Hotel, Phoenix, Ariz.

25-26 •A. G. A. Operating Section, Transmission Conference, Brown Palace and Cosmopolitan Hotel, Denver, Colo.

JUNE

5-6 •A. G. A. Eastern Regional Sales Conference, Pittsburgh Hilton Hotel, Pittsburgh, Pa.

Personnel service

SERVICES OFFERED

Interested in position in **Research and Development Department of Appliance Manufacturer**. Eight years' experience in design, development and testing of gas, oil and electric lines. 2009.

Graduate Chemical Engineer—12 years' broad experience in natural gas industry in the U. S. and overseas wishes engineering/management position with consulting firm or operating company. Have designed, constructed, operated, and managed complete gas distribution and transmission systems. Also operated water distribution system and familiar with electrical distribution. Held positions of chief engineer and operating division manager. Prefer location in western U. S. or overseas. 2010.

Air Conditioning Sales, Management—broad experience product, auxiliaries systems at staff and field levels. Specialist in sales approach simplification, salesman progress evaluation; clinical workshops for engineers, dealers, utility local office personnel. Worked east, midwest, south. No location or travel limitations. 2011.

Sales Engineer—11 years' experience in promoting heating and air conditioning equipment. Working at all levels, dealer wholesale and utility. Thoroughly familiar with boiler conversions, commercial gas application, and all surveys. Married, family, age 35. Degree in mechanical engineering. Resume on request. Willing to relocate. 2012.

Exploration Geologist—M.S. degree. Sixteen years all phases of subsurface geology with two major oil companies in responsible line and staff positions. Mid-continent, Texas, Eastern, and Rocky Mountains. Married, age 44, relocation welcome. Resume and references on request. 2013.

Sales and Management—technical education and degree, combined with more than 20 years of sales management experience with gas equipment and appliance manufacturers. Widely known throughout the gas industry including gas associations, individual utility companies, and manufacturers. Have served each of these groups as special consultant on sales management and technical projects during the past five years. Salary open. Will relocate. 2014.

Home Economist—ten years' experience in all phases of home service work for straight gas and combination company as advisor, supervisor, promotion, education; public relations work included TV and radio appearances, program development, training, writing, lectures, kitchen planning and appliances. Seeking home service director's position. BS from Cornell. Resume and references on request. Willing to relocate. 2015.

Gas Production Engineer—your chance to help refugee from Cuba and acquire excellent engineer. Age 39. Bilingual. Fourteen years' experience in gas production but graduate electrical engineer. Highly recommended. 2016.

Experienced Sales or Commercial Manager Available—fully schooled and experienced in all phases of utility merchandising, sales promotion, advertising, sales training, etc. Age 38, family. Will relocate. Will supply resume and personal data upon request. 2017.

Engineering and Management—12 years experience in design, operations, construction, and maintenance of transmission and distribution facilities. Also experienced in meter shop operation, measurement and customer service training. Present position as operations man-

ager. Prefer locating in Midwest. Complete resume upon request. 2018.

POSITIONS OPEN

Meter Reader Supervisor—expanding Great Lakes utility seeks man with meter reading and supervisory experience for new office. Will supervise work of 25 men and administer office procedure. Excellent starting salary and full benefits. Submit resume including age, education, experience, and salary desired. All replies confidential. 0963.

Engineers—Philadelphia utility with divisions in eastern Pennsylvania can use three engineers on distribution work. Would prefer men with supervision experience. Give details of education and experience in reply. 0964.

Industrial Engineer—long established utility desires permanent services of combustion engineer. Must be college engineer graduate, five years' experience in combustion engineering field. Send resume including photograph with first reply to Northwest Natural Gas Co., Personnel Office, 132 N.W. 2nd & Flanders, Portland, Ore. 0965.

Gas Promotion Engineer—engineering degree preferred with at least two years' experience in the industrial, commercial and central house heating, air-conditioning and miscellaneous appliances, covering gas sales, engineering, supervisory installation and service. Must be thoroughly experienced in preparing heating and air-conditioning surveys and selling gas equipment for the promotion of gas sales. Starting salary, \$520-630 per month. Maximum age, 35. Send full resume to Director of Personnel, City of Pensacola, Pensacola, Fla. 0966.

Engineer, Gas Distribution—graduate chemical, civil or mechanical engineer interested in the field of gas distribution; duties involve engineering, operation and promotional activities for Wisconsin utility. Write stating age, experience and salary expected. 0967.

Gas Distribution Superintendent—midwest utility has immediate opening for a man experienced in gas distribution operations, supervising men, handling personnel, safety and labor relations problems that are associated with them. Please send a resume containing experience, education, age and salary requirements. 0968.

Manufacturers Representative—to sell gas radiant heating system, 100 per cent infrared at 2000F, to metalworking industry for heat treating and processing Temperatures 300-2300F. Outstanding five-year history of wide acceptance by industry. Territories open in New England, New York, Philadelphia, Dallas, Milwaukee. Replies kept in confidence. Straight commission. 0969.

Manufacturers Representative—experience in selling space heating. New application of proven design with "no flame-out" feature infrared gas heater. For shopping centers, airports, racetracks, hangars, snow and ice removal. Nationwide territories available. Send full details. Replies held in confidence. Straight commission. 0970.

Manufacturers Representative—to sell processing industry new type gas ovens using infrared heating. Design includes new fan for rapid and uniform distribution of heat. Ideal for heat processing glass, enamel, food, paper, textile. Straight commission. Replies held in confidence. Send details. Territories open throughout U. S. and Canada. 0971.

Western utility announces four executive appointments

THREE executive promotions and appointment of a new officer have been announced by Western Gas Service Co., El Paso, Texas. The firm serves 60,000 natural gas customers in towns and farming areas of eastern and western New Mexico, parts of the Texas and Oklahoma panhandles, plus El Paso's upper and lower valleys.

J. V. King has become vice president and manager of operations. B. V. Cowart, treasurer, and in company service since 1955, has been named a director. W. Uroda, supervisor of the general accounting department has been given the added duties of assistant treasurer. W. D. Moore, Jr., has joined the firm as corporate secretary and attorney.

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